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Tumors - General Considerations

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ONCOLOGY, the science of tumors, has in the past been somewhat neglected by the general run of physicians and this to the delight and profit of quacks and charlatans. It is time that we of the medical profession give more concern and study to cancer and allied diseases, for cancer has now gained second place among the causes of death. Not so many years back it was not listed among the first ten. Generally speaking, one out of ten will succumb to cancer, about 150,000 deaths annually. It is stated by some observers that cancer is really increasing, but others think the increase is due to improved diagnosis and recognition. Being a disease of adult and advanced ages, it has been thought that the increase is due to greater longevity. This is not true, however, as we are not living an appreciably longer time than in years past. There are, though more people living to the cancer age now than formerly, thanks to the results of the medical profession's efforts in controlling diseases like tuberculosis, diabetes, typhoid, and childhood diseases, thereby augmenting the potential number of victims that cancer can attack. It is hard, too, for me to understand why cancer should take on such a spurt within recent years. We know that it was common in the days of Hippocrates and probably from the origin of man. If misplaced cells or cell rests (Cohnheim's Theory) are etiologically responsible for tumors, we would have to assume that Nature is making more errors of ontogeny than in times past. I can't let the profession's best friend down by believing this of her. But, in any event, the incontrovertible fact of more cancer deaths plus the widespread publicity engendered by organizations, lay and professional, have made the public more cancer-minded. To meet a definite demand I believe that we will soon see develop in the hierarchy of medicine a new specialty, composed of physicians who have been specially trained in Tumor Hospitals and who might be designated as oncologists.* It is to be hoped that they may be able to turn on a little more light in a temple of darkened passageways.

Author's Note

Following this first composition covering tumors in general, there will appear each month an article devoted to tumors of special organs or tissues, as the breast, uterus, lip and intraoral cavity, skin, rectum, and others if these papers are found to be of any practical value to the readers of Southwestern Medicine, and an earnest effort will be made to make them practical at the expense of any other feature.

*(Cf. My article "Oncology as a Specialty" recently submitted for publication in the Jour. A.M.A.)

DEFINITION

The word tumor of course, means "a swelling". "Formerly," as Bland-Sutton' states, "the term tumor was applied to many abnormal swellings including gummas, hypertrophy of the prostate, keloids,, but now is used in the sense of meaning neoplasms or new growths and being autonomous". The *"tumor"* of inflammation's quadruplets *"calor"*, *"dolor"*, *"rubor"* and *"tumor'* is not considered a new growth, is not autonomous, and therefore will not be considered in these discussions except in differential diagnosis. The use of the word cancer in the professional sense is limited to those malignant new-growths which arise from epithelium. Newspapers and lay writings are using the term to denote any form of malignant new-growth, and we see written 'sarcoma (a form of cancer)".

We need not review the distinguishing characteristics of benign and malignant (more consistent would be benignant and malignant or benign and malign) tumors if we keep in mind the one great difference, to-wit: a malignant tumor has killing potentialities, no matter where it is situated, whereas a benign tumor kills only when it is situated in a suitable location. Tumors are like our vices--none are good but some are worse than others; our lives are compatible with the lesser ones, while the more noxious may carry us off.

CLASSIFICATION

Tumors are classified according to their embryological germ layer derivation; to their radio-sensitivity; to the organs involved, etc., each having definite reasons "for being". Much confusion has resulted from a multitude of terms. I intend to use the classification drawn up by the Central Bureau for the Study of Tumors of Philadelphia,* which Doctor J. McFarland has generously placed at my disposal. This Bureau remarks that "Of the systems now in vogue, the least objectionable seems to be that of arranging the tumors according to normal tissues", i. e., histologically. This classification is as follows:

*Composed of Drs. Joseph McFarland, A. E. Bothe, William Hueper and Herman Churchill.

I. BLASTOMAS

Tumors Composed of one essential type of tissue.

A Blastomas of Connective and Related Tissues.

	BENIGN	MALIGNANT
1. Undifferentiated embryonal cellular masses	———	sarcoma
2. Fibro-connective tissue	fibroma (inc. keloid)	fibro-sarcoma
3. Cartilage	chondroma	chondro-sarcoma
	chordoma	chordo-sarcoma
4. Bone	osteoma	osteo-sarcoma or osteogenic sarcoma
5. Mucus Tissue	myxoma	myxo-sarcoma
6. Adipose Tissue	lipoma	lipo-sarcoma
7. Muscle Tissue	(unstriated-leiomyoma or fibroids)	leiomyo-sarcoma
	(striated rhabdomyoma)	rhabdomyo-sarcoma
8. Endothelial Tissue	(vascular angioma)	angio-sarcoma
	(lymphangioma)	lymphangio-sarcoma
	(serous)	endothelio-sarcoma of serous membranes
9. Lymphoid Tissue		
a. Lymphoblastic	———	lyphoblastoma
		lympho-sarcoma
		chloroma
		multiple myeloma, lymphocytic and plasmacytic
b. Myeloblastic	———	myelocyto-sarcoma
c. Erythroblastic	———	erythrocyto-sarcoma
d. Reticuloblastic	———	recticuloblasto-sarcoma

B Blastomas of Nervous and Related Tissues.

1. Neuroglia	glioma	Glioma
2. Nerve Pulp	sympathecoblastoma	neurocytoma
		neuroblastoma
3. Nerve Fibres	neurofibroma	meurosarcoma or neurogenic sarcoma
4. Pigment Apparatus	cellular naevi	melanoma, chromatophoroma, melanocarcinoma or sarcoma
	chromaffinoma (paraganglioma)	———
	argentaffinoma (carcinoid)	argentaffino-carcinoma

C Blastomas of Epithelial Tissues (Regardless of the Supposed Blastodermic Derivation.)

a. Of the Squamous type	papilloma	epidermoid carcinoma
		squamous epithelioma
b. Of the Ameloblastic Type	ameloblastoma	ameloblastic carcinoma
	adamantinoma	
c. Of the Urothelial Transitional Type	papilloma	urothelial carcinoma
d. Of the Cuboidal Type	adenoma	adeno-carcinoma
e. Of the Columnar Type	papilloma	adeno-carcinoma
f. Of the Chorionic Type	adenomatous plypi	chorion epithelioma
g. Of the Cortical Adrenal Type	———	malignant hypernephroma

II. TERATOBLASTOMAS—MIXED TUMORS

Complex Tumors composed of a limited number of tissues and conceived to arise through minor developments defects, such as the sequestration of cells during embroyic development. These occuring in face and mouth, in the kidneys, testis, and in the female vesico-vagino uterine region.

III. TERATOMAS

Extremely complex tumors conceived to arise through:

1. Inclusion fetus in fetu.
2. Fetus amorphus parasitious—epignathus, hypognathus
3. Included Blastomeres—sarco-coccygeal parasite.
4. Parthenogenesis of germinal cells—dermoids of ovary and testis.

Finally though, the proof of a classification is in its practical workability, and it is sometimes difficult by microscopical examination to put a certain tumor in a definite category. For example, the small-celled primary tumors of the lung are difficult to classify. They have been called both lymphosarcoma and carcinoma although in recent years more observers are leaning to the latter, and this is one of the reasons why primary carcinoma of the lung has jumped from obscurity to 6-10% of all carcinomas[3].

Melanoma in the above classification is classified under pigment apparatus, whence the name chromatophoroma, but the terms melano-carcinoma and melano-sarcoma are also used. It appears, though, through the recent work of Masson[3] that melanomas are really nervous tissue tumors of the end corpuscles. At times pathologists will differ as to whether a specimen of tissue presented to them for diagnosis is malignant or benign. Bloodgood[4] sagely remarks that in these border-line groups only (in which the pathologist is not certain) are there 100% cures. Hertzler[6] backs this up with the assertion that "it follows as the night the day that when pathologists are in doubt the conditions are not malignant." We can readily see from these illustrations that the book is far from closed. As we improve on our present inadequate knowledge of tumors we can expect many changes in their classification and nosology.

ETIOLOGY AND TREATMENT

Needless to say, the cause of cancer is not known. We are, however, learning new facts regarding some influencing factors, such as chronic irritation, carcinogenic substances (hormones?), heredity, age, sex, work, concurrent diseases, disturbances of function, viruses, physiological states, such as menstruation, pregnancy, and lactation, and precancerous lesions. These factors will be discussed more in detail in the articles to follow when tumors of the different organs are reviewed.

The prognosis of malignant tumors is as yet, I regret to say, uniformly bad excepting for the few

early cases without infection, spread, or metastasis, and where surgical removal is complete or where radium or x-rays are efficacious. Skin cancer makes up a great percentage of these cases.

In the matter of diagnosis we have definitely made advances. X-ray studies, bronchoscopy, esophagoscopy, laryngoscopy, cystoscopy, proctoscopy and sigmoidoscopy, biopsy studies—all have resulted in greater accuracy of diagnosis. A word about biopsies—we heard some years ago of the great danger of disseminating cancer by the taking of biopsies. This fear was apparently exaggerated. Stewart[6], for instance, has examined 7000 cases of aspiration biopsies and has noted no deleterious results. Experiments on mice in an endeavor to produce metastasis from biopsies have failed to do so. It is my opinion that we'll come to see practically all newgrowths biopsied, of course, using our best surgical judgment and technique in performing the biopsies.

The treatment of benign and pre-cancerous lesions is surgical removal, if possible. Some few, such as fibroids of the uterus, papillomas and keratoses, can be effectively treated with x-rays or radium. The malignant newgrowths, as noted above, are best treated by surgical removal if there is no metastasis. Portmann[7] reveals that Crile has 100% five-year survivals of breast carcinomas treated by surgical removal in those cases in which there were no metastases. Pfahler[8] gives this figure in his experience a tabout 70%, remarking, too, that these early cases comprise only 10% of the cases one sees. In considering treatment we must remember that, although permanent cures are the exception, frequently by judicious radiation therapy and surgery we can temporarily obtain regression or improvement with relief of pain, cessation of noxious discharges, and palliation for some months or years. For example, we have learned that periodic examinations for prolan in the urine of patients who have had teratomas of the testis allows us to be aware of metastases which can be effectively treated (for some years at least) by roentgenotherapy. The Hines Veterans Hospital, at Hines, Illinois, has some 145 patients who have been afflicted with teratomas of the testis and who by radiation have been so improved that they have been able to return to their homes and are living essentially normal lives. Mention might also be made of treatment by injections of lead (Jefferson Hospital, Philadelphia), sheep serum therapy of Kaplan & Goldfeder[9], electrocoagulation, and freezing therapy of Fay at Temple University Hospital, Philadelphia.

PREVENTION

If treatment, then, is unsatisfactory, can we not find ways and means of prevention? In the first place, it has not been shown that cancer is contagious, so we cannot reduce the number of cases by isolation. Proper treatment directed to precancerous lesions may be of some value but except possibly for keratoses, leukoplakia, pigmented naevi, and maybe a few more, we are not sure what lesions or abnormalities can be called pre-cancerous. Chronic cystic mastitis, "erosions" of the cervix, pipe irritation of the lips, are all being debunked, and I believe rightfully so, of their ability to develop into cancer. We see lip cancers commonly in people who have never smoked a pipe, and recently I saw a case of lip cancer near the left commissure in a man who had smoked a pipe for 25 years, but it so happened that he always held his pipe on the right side of the mouth. Lewis & Geschickter[10] note that in 523 cases of what is commonly called chronic mastitis, only 4 cases (less than 1%) developed carcinoma in 5 years of observation. Doctor Norman Miller[11], of the University of Michigan, remarks that he has yet to see a cervical carcinoma develop in a so-called "erosion" and his cases run well over 600. I have gained the impression that carcinomas, as we see them in practice, develop when and if they are good and ready —*de novo*, if you wish. Due regard, however, must be given to the opinions of Maud Slye who has done so much excellent and indefatigable work on heredity in cancers of mice. She[12] reasons: "The causes of cancer . . . (1) One unit recessive genetic factor for each type of malignancy (carcinoma, sarcoma, leukemic disease), not just one unit character for all types of malignancy. (2) One unit recessive genetic localization factor determining each site of malignancy for the type—mammary gland, or lung, or body-wall, for example. (3) External causative factors perhaps (environmental or intra-organic). (4) Metabolic relationships. (5) Longevity or ability to live into the age for high cancer probability."

SUMMARY

(1) In dealing with malignant neoplasms we do not have the all-necessary assistance of Nature's defenses as we fortunately have in treating infections. The latter are usually "self-limited" by antibodies, antitoxins, leukocytosis, and the "walling off" process. The defense offered to malignant newgrowths is feeble at the very best and self limitation is a minus quantity. This is one of the chief reasons why our treatment of malignant tumors appears so black when contrasted with that of infectious diseases.

(2) We stress, and rightly so, the importance of earlier diagnosis, but we must realize that this ideal is not only rarely attained but is also, especially when the neoplasm is located in hidden sites, a false hope because when signs and symptoms have arisen, the lesion is then not early but is at least moderately advanced.

(3) Cancer, generally speaking, is of two different types, the exuberant (cauliflower-like) and the infiltrative; but the former, although apparently growing outward, also has its share of inward growing rootlets. It is in this type (exuberant) that we see the best results of radiation therapy, but surgery, cautery, and pastes have also been able to produce such external results. I am not convinced

that radiation therapy, except in a few radiosensitive tumors such as the lymphoblastomas and some teratomas, sterilizes the neoplasm when the latter has embedded itself within tissues. We can look forward to further advances in radiation therapy but until we have an agent of greater tissue or cell selectivity, we must not get too enthusiastic. Whatever our method of treatment, let us be heedful that we do no harm.

Looking, then, at the facts concerning malignant tumors, neither pessimistically nor optimistically but frankly and honestly, it appears that we are at the present time "mere babes in the woods"—but it is also true that we are, day by day, stamping, hewing, and working to find our way to adulthood out in the open.

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The Menopause: Diagnostic and Therapeutic Problems*

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UNDER the term "menopause" are grouped a variety of clinical disorders of which the spontaneous cessation of menstruation is the most common. Artificial menopause includes the premature interruption due to surgical removal of ovaries, irradiation of the pelvis to the point of inactivation of ovaries, and technically, hysterectomy. It seems improbable that the uterus has an endocrin function. Since hysterectomy without removal of ovaries does not produce the same clinical disturbance as oophorectomy, consideration of the removal of the uterus may be omitted from the problems of importance.

Although menstruation may continue regularly and with little change in duration or volume of flow until it ceases almost suddenly, most women experience irregularity in menstrual function preceding the final cessation of flow. This gradually subsiding activity is associated with gradual decline in the activity of the ovaries. Identical alterations of menstrual function may occur at any time between the ages of 12 and 40, but the long continued irregularity shows that these cannot logically be considered as due to premature menopause. Therefore, when menstrual irregularities occur in the second, third or fourth decade, one is confronted with the problem of deciding whether the patient is approaching the menopause prematurely or is suffering from disorders of the endocrine mechanism which determine the usually regular four week cyclic activity of the ovaries. This is not merely an academic distinction, for the true menopause occurring spontaneously appears due to lost capacity of the ovaries to respond to pituitary stimulation. The pituitary stimulation continues and is actually increased. Similar pituitary hyperactivity follows destruction or removal of the ovaries. Such loss of ovarian capacity to respond may occur at any age, but is typical in the period of physiological climacteric. This cessation of function is to be contrasted with the occurrence of amenorrhea, irregular cycles, menorrhagia, and low fertility when the ovaries retain ability to respond, but the pituitary influence is inadequate to maintain healthy adult type of cycles. Deficiencies of thyroid, adrenal cortex, or pancreatic function or of vitamin intake may be contributory causes in this group.

DIAGNOSIS

The statement of the diagnostic problem is easier than its solution, for it is difficult to measure the activity of the pituitary and the adrenal, or the adequacy of vitamin intake. Thyroid and pancreatic function can be investigated clinically with fair certainty. If there is no evidence of thyroid disease, of diabetes mellitus, if the food history makes dietary inadequacy improbable, and if there is no hypotension and asthenia to suggest adrenal deficiency, one is still left with the possibility that the clinical problem may have come either from primary ovarian failure or from primary underactivity of the anterior pituitary. Hormone assays are not yet competent to answer the questions propounded. Study of vaginal tissue or even biopsies of the endometrium will not suffice. A history of mental and nervous disturbances characteristic of the spontaneous menopause does not help, because it is typical of ovarian failure. A t present the clinician must decide on a therapeutic program with-

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out having an accurate diagnosis. In some cases the response to therapy will indicate the diagnosis and give a belated solution for the riddle.

TREATMENT

On deciding on the plan of treatment the clinical goal is of prime importance. If it is relief from the autonomic and mental complaints, use of sustained treatment with potent estrogenic hormone is indicated, and the treatment should be pushed to the point of complete relief. This is treatment appropriate for the menopause. If the need is for control of menorrhagia, curettage, hysterectomy, or irradiation are the usual methods. If, however, the conservation of fertility and therefore the restoration of regular cycles is the goal which must be kept in mind, the above types of treatment are all contraindicated. Curettage is often futile save for diagnostic study and elimination of cancer. Irradiation does not stimulate, and if effective will destroy ovarian function. The use of estrogenic hormone does not stimulate the ovaries and when its use is sustained, it inhibits the pituitary, therefore secondarily the ovaries. Consequently, when fertility is to be conserved or restored, the therapy indicated is anterior pituitary gonad stimulating extract. If trials of adequate dosage fail to secure progress, it becomes justifiable to decide that the patient has ovaries which cannot respond, and to treat her for the menopause, with sufficient estrogenic hormone to secure relief. This is frankly an attempt to achieve the most good and do the least harm, with an inadquate diagnosis. The details of pituitary therapy and the evidences of response which justify continuation of such treatment will be presented elsewhere.

The reason for treating women with menopause symptoms is purely for relief of the physical, social and domestic mental distress, not for preservation of life. Exception may be made in the cases of involutional depression where danger of self-destruction is genuine. In the menopause the body undergoes an enforced readjustment in the effort to balance endocrine and nervous activity with diminishing ovarian secretion. An asymptomatic balance is ultimately reached, with or without therapy. It is true that many women have no complaints during this transition. Untreated cases may have disturbances for periods up to at least 20 years. Those who remain under adequate treatment apparently establish the new balance and maintain it without aid after a much shorter time. Consequently the physician may promise his patient eventual relief even without treatment, or complete relief while taking treatment. There is the probability of an earlier cessation of difficulty under therapy than if estrogenic hormone is not used or is taken in inadequate doses.

SYMPTOMS OF THE MENOPAUSE

Autonomic	*Psychic*
Hot flashes	Insomnia
Chills	Paresthesias
Sweating spells	Hyperesthesia
Dyspnea	Self depreciation
Palpitation	Self accusation
Vertigo	Jealousy
Nervous irritability	Morbid worrying
Headaches	Melancholy
Weeping without cause	Suicidal ideas

The symptoms of which women complain may be divided as shown in the table into autonomic and psychic groups. Incidentally it should be remarked that these same symptoms occur in men from analogous causes. Hence, these clinical symptoms would best be called "climacteric", applying to both sexes. The diagnostic and therapeutic problem in males is less well explored, but the principles involved do not differ in most details. The mechanism of autonomic disturbance in the climacteric is unknown. It is assumed to be the consequence of the altered activity in the anterior pituitary, which is also recognized by the increased amounts of gonadotropic hormones in blood and urine during the climacteric. Whether this excess of hormone acts on autonomic nerves, on the adrenal glands, or whether there is anatomic disturbance by the pituitary of the hypothalamic centers in the brain stem which stimulate autonomic nerves is at present in question. When estrogenic hormone is given in doses adequate to control the symptoms, the secretory activity of the pituitary is decreased.

A psychological explanation of the mental symptoms may be suggested. This is based on the known fact that the development of the normal adult psychic and emotional pattern is determined largely by the action of the "sex hormones". Reduction of this effect or complete removal of the hormone source from the body is believed to lead either consciously or sub-consciously to feelings of inadequacy, self depreciation and ideas referring the difficulty to others (jealousy), melancholy and a desire to escape from the situation by various means, which may lead to suicidal thought. This syndrome is known as the involution. It is obviously important that the true nature of the picture should be explained to the patient, for recognition of the diffuculty may be the most effective psychotherapy. Often nothing more than such an explanation is necessary to help an intelligent person to endure the mental as well as peripheral nervous torments of the involution. If the problem becomes more than a depression and merits the term psychosis, restraint or institutional care may be required until the appropriate amount of estrogenic hormone can be introduced and the patient brought back to self control. To the clinician it will be obvious also that coincident senile or sclerotic changes, or concomitant psychic problems will alter the prognosis and therapy of the involution.

DIFFERENTIAL DIAGNOSIS

It is of course necessary that the history of autonomic symptoms be considered as indicative of the menopause, but not pathognomonic of it. Further history and general physical examination are important to eliminate thyrotoxicosis, cardiac disease, pulmonary tuberculosis, essential hyperten-

sion, and arteriosclerosis as the causes of these same complaints. But the occurrence of any of these conditions does not preclude climacteric exaggeration of symptoms, in which case both ailments may require treatment. Of especial importance is the search for evidence of neoplasm in the breasts and the pelvic organs. These are more frequent at the climacteric age, hence to be sought in every patient examined at this age. Furthermore, the estrogenic hormones are stimulants to the growth of the breast ducts, the uterus, and the vaginal epithelium. Use of sustained treatment for months or a few years with estrogenic hormones would be risky if there were any neoplasm, since these hormones are known to stimulate growth of neoplasms if used in large doses. Even fibroids should be removed or at least observed with double caution under these circumstances. If menorrhagia occurs without evidence of neoplasm, it may be well to use irradiation with deep x-ray in full doses before beginning the use of ovarian hormone. With any uncertainty about the diagnosis of neoplasm, curettage is indicated, and when tumor is diagnosed hysterectomy is usually advisable.

USE OF ESTROGENIC SUBSTANCES

The estrogenic hormone may be applied hypodermically (in aqueous solution), intramuscularly (in oil), intravaginally (in oil or in hardened gelatin), or orally (in oil or tablets, or aqueous solutions). Aqueous preparations for hypodermic use have almost disappeared from the American market, so far as standardized extracts are concerned. There is a great vogue for intramuscular injection of oil solutions of the esters of the hormone. These are more slowly absorbed and the patient has a more sustained result than from aqueous injection of the same amount of hormone. However, the oils used are foreign substances, are not absorbed, and lead in some cases to foreign body reactions. This type of therapy tends in practice to less uniform control than oral administration makes possible. Since the hormones can be given orally with completely satisfactory results, there seems to be no reason for parenteral medication here save in two cases: need for haste in introducing large doses (occasional involutional patients), or if the parenteral therapy is cheaper than the oral. The advantages *to the patient* of oral treatment are obvious. Cost is not a determining factor at present prices. It is, therefore, urged that the standard form of treating the menopause should be by mouth, intramuscular injections being reserved for special indications.

The doses employed must be varied to suit the needs of the patient, as for any other hormone, or any drug. Using oral preparations the maximum dose in terms of international units has been 10,000 units (Amniotin) daily, and the minimum 1,000 units. When the amount is large the best effects are secured from divided doses which produce sustained effects. There is no known preferential relationship of dosage to meal times. The daily total should be made large enough so that within a few days the symptoms are markedly abated, and very soon brought completely under control. Once this relief has been made essentially complete the dose should be reduced gradually, at intervals of a week or two until the minimum is found which will maintain complete control. Again at later dates it is advisable to attempt further reductions of the doses, but whenever the most easily recognized symptoms recur, the dose should at once be advanced to an amount which has been found adequate. Not infrequently women find that they require larger doses when under emotional stress, during exposure to heat, and during even minor infections. Ultimately the dose is reducible to the vanishing point, although brief periods of return to therapy are sometimes desirable. There is no evident reason for interruption of this type of treatment until trial shows that it is no longer required for comfort.

There are at present a number of standardized preparations of estrogenic substance on the American market. The long history of variable success with older, unstandardized extracts, whether orally or hypodermically administered, is adequate reason for abandoning all save those preparations which are plainly labeled with the potency in terms of animal units or of milligrams of pure hormone. Economy will in this way be secured eventually, even though the older ovarian preparations may seem cheaper. The estrogenic substances most widely used include Amniotin (Squibb), Emmenin (Ayerst, McKenna and Harrison), Progynon (Schering Corp.), and Theelin (Parke, Davis & Co.). These may all be depended upon to accomplish the results described. The advantages are largely in terms of type of preparation for convenience, and of cost per day for control of a given patient's symptoms. Amniotin is available in oil solution, or in capsules of 1000 or 2000 international units for oral therapy. The larger capsules are preferable because of lower cost when the daily dose is 2000 units or more. Progynon is available in a different unit, which the manufacturers choose to call "active biological units". The tablets are dispensed in 50, 200, or 600 units strength, or 0.05, 0.3, and 0.9 mg. of the pure hormone. Here again the higher concentrations are relatively cheaper. Both Amniotin and Progynon, as well as Theelin are furnished in oil solutions for intramuscular injections, in concentrations from 1000 units per c.c. up. Emmenin is sold in aqueous solution or tablets for oral therapy only. Its standardization is in a different unit. Doses are in terms of 1 or 2 teaspoonfuls 1 to 3 times daily. One tablet is equivalent to one teaspoonful.

University of Wiconsin.

He (the physician) may have "buried some mistakes" but he probably helped to bring a lot of others in the world.—Salt Lake Tribune.

The Degenerative Goiter Heart

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THE normal end result of all goiters is death from heart failure. Generally speaking this is as true of Graves' disease as of the nodular goiters. The problem, therefore, in the first place is to determine when a goiter begins to injure the heart, and in the second place what to do about it.

Goiters beyond the age of adolscence may be divided into the hyperplastic toxic as we see it in Graves' disease, and in the degenerative toxic goiters, toxic adenomas or whatever name is applied to them.

A convenient clinical designation is acute and chronic goiter as proposed by Davison. The first group, the acute, is synonymous with the hyperplastic. It is represented by the Graves' type of disease, being attended by marked loss of weight, pronounced nervousness and in some cases by eye signs. These are acute in that they may develop in a few months. Therefore, they are obviously acute in onset. In contradistinction to these is the chronic type which require many years for the development of obvious toxicity. Therefore this lesion may be designated as chronic. It would add much to clinical clarity if practitioners would adhere to this simple classification rather than to try to employ the terms usually used by pathologists.

NORMAL THYROID

The first step in the study of the pathology of an organ is to consider the normal. Unfortunately we do not know fully the structure of the normal thyroid gland.

Beginning with a cell mass in the fetus follicles are gradually formed. In childhood many well formed follicles containing colloid are interspersed with cell masses which have not yet formed acini. In adolescence and early adult life the acini dominate the picture, there being but few interacinal cell masses remaining. The acini are lined with a uniform cuboidal cell and the colloid which they contain is uniformly acidophilic when stained. In midlife the cells are flat, the colloid tending more or less toward atrophic changes. In nearly all of the glands in mid or later life the colloid has lost its specific stainability. The time when this occurs varies greatly but when it comes the structure is then comparable with the structure of degenerative toxic goiter. The only difference is that there is no goiter, i. e., there is no enlargement of the thyroid. There may be much more extensive degeneration. The acinal epithelium may wholly disappear over large areas and fibrous tissue may make up the bulk of the gland. In such cases there cannot be a shadow of a doubt but that the gland is wholly functionless.

In order to learn something of the structure of the thyroid gland which supposedly normal persons support it will be necessary to study a large number of glands obtained from persons who meet sudden death by accident or by disease not attended by constitutional reactions. We are wholly ignorant of what changes if any are produced in the thyroid gland by the terminal stages of either acute or chronic diseases. We are able to say, if we accept the gland of the adolescent or young adult as the standard normal that there are no normal glands in mid or late life.

DEGENERATIVE TOXIC GOITER

If we begin our study with the early colloid goiters we find an increase in the colloid and a flattened epithelium with an increase of the number of acini. At this stage there is no evidence of constitutional disturbances. Early the goiter begins to show definite progressive changes. These changes first show in the tinctorial changes in the colloid before there is any alteration of the acinal cells. Ultimately the entire organ becomes wholly degenerated and there remains no normally functioning gland. The rate of development of these changes is uncertain. Generally speaking, one can reckon the ultimate state in decades. It is equally certain that the beginning of the changes occur early in the life of the goiter, long before the constitutional changes are usually recognized. The time when the clinical stage is reached depends entirely on the individual clinician.

In th study of the cardiotoxic goiter patients it is convenient to divide them into the early and the late cases. The earliest stage is that in which the symptoms are not clearly defined, a pre-clinical stage to the majority of practitioners, and the late changes in which even grandmother can make a diagnosis. Of course, there is no dividing line. Each of these stages may be considered both clinically and pathologically.

The clinical aspects of the early stages usually present as more or less cardiac disturbance, increase in rate or intensity of beat, even to disturbance of rhythm. There may be some loss of weight, perhaps alternating loss and gain. There is an increase of nervousness, ups and downs, perhaps nervous breakdown of greater or less degree. These symptoms become impressive only after one notes the disappearance of them following ablation of the thyroid gland. The expression of gratitude of these patients after they have been operated sharpens one's clinical sense in the discovery of the early stages of the disease.

Pathologically the gland in this stage is usually obviously enlarged, often bosselated. Usually there is an increase in density. The presence of a goiter is not an essential part of the clinical picture. The thyroid gland need not be palpable at all. The diagnosis must be made by the examination of the patient before the neck is investigated. The ab-

sence of a palpable gland is particularly common in husky mdidle-aged men. The reason is that the gland is hidden behind the sternum.

The histology in this stage may be confusing. With hematoxylin and eosin stain there may be little change and if the gland be not enlarged it may be regarded clinically normal. A careful microscopic study, however, will show areas of wholly atrophied cells and here and there likely there will be acini showing a beginning basophilia. It is in these cases that the use of other stains is mandatory. With Mallory's aniline blue stain the staining of the colloid by the aniline blue is lost and the orange G stains become dominant. Acini in which the latter stain functions the epithelium is obviously permanently out of commission. A tinctorial study of the colloid throws a great doubt on the theory of acting and resting cells to say the least. The resting cells will never work again.

In the late stage the goiter heart justifies its name. Heart symptoms dominate; arhythmia dilatation, dropsy, is the usual order. The patient has a sense of exhaustion rather than the nervousness of the early stages. The sleep is disturbed. The loss of weight may be slight but it is usually marked. The dropsy may dominate the picture if the heart is in a state of utter decompensation. Many of these patients have been taking digitalis for long periods, despite which they sleep sitting up if at all. The terminal stages are usually those of a progressive heart failure, but sometimes there is a hyperpyrexia.

It may be said in passing that even in the stage of marked decompensation the patient may recover fully after the removal of the goiter. The heart symptoms seem to be due to a poisoning from the goiter rather than to any degenerative change in the heart muscle itself.

The pathologic changes in the goiter in this stage are perfectly obvious. Usually there is evident thyroid enlargement but by no means always. It may be so slight that the physician has not noticed it. Likely he has not looked for it. In most cases, however, there is notable enlargement so that the goiter cannot be missed. The gland is usually irregular in outline, indicating that acinal hyperplasia has been pronounced.

Histologically there is but an exaggeration of the early stages. Usually the hematoxylin and eosin stain shows very obvious basophilic change. The epithelium is obviously degenerated and the connective tissue usually has lost its typical tinctorial reaction. It has taken part in the degeneration. The aniline stain shows the changes in the colloid at a stage when it still accepts the eosin stain. Many of the acini stain yellow with the orange G, refusing completely to take the aniline blue which characterizes the normal colloid.

Somewhere in thyroids of this kind something harmful is being produced. It is a toxicity of degeneration. Just what is going on is impossible to say. Many of the cells are wholly degenerated. Whether other cells are still producing a poisonous substance or if the colloid is collected as in a reservoir and then is absorbed slowly is unknown. Likely the cells continue to produce an abnormal colloid, for one sees islands of cells which seem to be exerting a feeble effort a compensation. In rare cases these cells may be so active as to produce evidence of an acute intoxication.

The important thing for the surgeon to know is that the whole thyroid gland is affected. There is no normal gland left. If he leaves in a piece of the gland he leaves a piece of the disease, and he rids the patient of only a part of his disease. Why doe the surgeon leave any of it? Only because he is scared. In 1882 Kocher wrote a piece in a journal in which he called attention to the fact that total thyroidectomy may be followed by cachexia thyreopriva. He did not specifically state that this occurs only when this extensive operation is done in children. He did not note that when it is done on adults no such dire results follow. Extensive experience has proved that in adults we need have no fear of removing all the thyroid tissue and thereby relieving the patient of all the gland that is poisoning him.

In this connection it is of interest to note what happens when total 'ectomies are done in adults. My oldest totals are now more than eight years past and nothing unfavorable has happened yet. Now and then a patient seems to require thyroid extract for awhile. This operation has been done on a special type of patient with a special kind of pathology and the results are most satisfactory. The total removal of the thyroid gland in adults is not followed by dire results, let that be repeated. So much has been demonstrated, whether the physiologists like it or not. Some physiologists, let it be noted, recognize that when all of the fully developed thyroid gland is removed no dire results follow.

One may say, therefore, that it is no longer necessary for patients to die of goiter heart. Even more, we may say that they need not even suffer from it if the condition is recognized early and a radical operation is done.

What about postoperative myxedema? It is no more frequent than after partial operations. Myxedema is a mysterious state. It develops spontaneously. Sometimes it follows operation, usually persisting for a time, and then it disappears. Sometimes it is more or less permanent over the years. This is true in spontaneous myxedema. after partial operation or after total removal of the gland. Even so, the taking of a grain of thyroid extract a day is not a very unpleasant procedure, no more than the taking of a fried egg for breakfast.

It is exceedingly difficult to determine just when postoperative myxedema is present. Of course, if a patient has had a thyroidectomy and there is some sort of complaint, myxedema is often assumed, thyroid extract is at once given and if improvement follows the matter is settled. However, it should

not be overlooked that the vast majority of such patients recover if indifferent treatment is given, i. e., syrup of the iodide of iron, luminal or something of that sort—certainly without the resort to thyroid extract.

TOTAL THYROIDECTOMY

It has been demonstrated, let it be repeated, that the total removal of the thyroid gland is not followed by dire results. But why the radical operation? The patients improve satisfactorily after the partial operation, at least in most cases. The reason is that the part allowed to remain may cause a goiter heart to reappear after five or ten or more years. The occurrence of the goiter heart makes it mandatory to reoperate, not a pleasant task to perform and a humiliating thing if the patient presents herself to some other surgeon.

Patients who have once been relieved of a cardiac state are quick to recognize the recrudescence of the symptoms and present themselves for further observation. If an obvious recurrence of a palpable gland is present the problem is simple, but if there is no palpatory evidence of a recurrence most surgeons hesitate to reoperate, possibly because such secondary operations offer technical difficulties.

Perhaps the most common deterrent to a complete operation is the fear of the technical difficulties. The difficulty of doing the radical operation is due to the failure to accurately locate the line of cleavage. This can be done only by sharp dissection and this is possibly only when the operator has an exact knowledge of anatomy of the region. This knowledge is easily acquired by a reasonably diligent surgeon in the dissecting room.

Trichomonas Vaginalis Infestation in the Male

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THE T. Vaginalis was first described by Donne in 1936 but the potential pathological qualities of this apparently harmless protozoan inhabitant of the vagina was not apprciated until the present century, when extensive gynecological investigation has placed it in an important role relative towards being the causative agent in a host of genital inflammations in the female.

But the fact that the T. Vaginalis might affect the male did not seem to be seriously considered by the profession despite a few early sporadic warnings in the form of reported instances of it being found in men's urine. It has been only in very recent years that suspicion has been directed towards the male concerning his harboring the flagellate. Of the 104 reported cases most of them have appeared in the literature in the last four years.

Riba & Perry in 1929 gave an interesting historical review concerning the investigators who have given the profession information on the T. Vaginalis. These same authors at that time described two cases of prostatovesiculitis due to this cause. Later, in 1931, Riba reported two additional cases, and five years later with Cornell he mentioned that 30 cases in all had been encountered.

Drummond, in 1936, gathered 20 cases of male infestation of T. Vaginalis origin from the literature to which he added the description of 5 cases he has observed. His work was most interesting in that he successfully demonstrated the Trichomonas in the prostatic fluid in four out of five men whose wives were known to harbor the flagellate in the vagina. Previously he had reported another case of prostatitis of the same origin. Allen, in 1935, had made a similar investigation. He described six instances of such infestation in the prostatic fluid of husbands whose wives harbored similar organisms.

Nitschke has become greatly interested in this relatively new subject. In 1936 he reported five cases, and in 1937 commented at length on this type of infection.

The only instance of this affection in the Southwest I have been able to find is one case which Rogde discovered during the preparation of this paper. At my request in making routine physical examinations on the employees of a large industrial plant in El Paso, he had all the urines of the men studied for the presence of the Trichomonads. In 200 urinalyses, ,they were found in one case, that of a man, age 54, who had been experiencing symptoms of mild prostatic infection and hypertrophy. The parasites were later demonstrated in the prostatic fluid. No treatment was given as the patient stated the symptoms were not of sufficient severity to warrant the advised therapy.

The 104 cases of T. Vaginalis in the male which I have been able to find recorded are as follows:

Minura, 1893	1	Stein & Cope, 1933	1
Marchand, 1894	1	Stuhler, 1933	1
Dock, 1896	1	Pelouse, 1934	8
Katsunuma, 1924	1	Manwell, 1934	2
Dastidar, 1925	3	Allen, 1935	6
Capek, 1927	2	Balkow, 1935	1
Riba & Perry, 1929	3	Ackuly, 1936	2
Grimm, 1930	5	Nitachke, 1936	5
Rosenthal, 1931	1	Drummond, 1936	5
May, 1932	1	Pittman, 1937	2
Jenkins, 1933	1	Heckel, 1937	5
Wright, 1933	1	McGreer & McNeil, 1937	1
Smith, 1933	1	Riba, 1936, Mentioned	25 additional cases

To my knowledge these 104 cases constitute the reported instances of T. Vaginalis infestation in the lower urinary tract in the male. To diverge from the subject slightly, there have been only 3 reports presumably of such infection in the upper urinary tract. In 1928, Lewis & Carroll reported a most unusual finding in a young woman who presented a

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I am indebted to Dr. L. O. Dutton and Miss Francis Park for th ir valuable protozoological investigations with the case described.

clinical picture of pyelitis. The catheterized specimens from the left kidney revealed the presence of motile Trichomonas. Later these same organisms were recovered from the vagina and from bladder specimens.

Ayer & Neil, two years later, in 1930, reported another similar case of T. Vaginalis as the cause of infection in the renal pelvis, and Madsen in 1933 described one case, also.

ETIOLOGY

It is interesting to note that most of the cases of T. Vaginalis in the male, have apparently received the infection from their wives. In some individuals the infection may be harbored a long while without symptoms, just as countless women have these flagellates present in the vagina without symptoms excepting the possibility of a very slight discharge. However, after receiving numerous inoculations over a long period of time, the urethra becomes so repeatedly insulted that the organisms become firmly established in the posterior portion, and after a proper period of further development they may begin to cause symptoms. On the other hand there are reported instances of such infections manifesting themselves a few days after intercourse.

DIAGNOSIS

The diagnosis of T. Vaginalis infestation in the male is, of course, made by finding the motile Trichomonas in fresh, unstained specimens from the urethra, prostate, or from the urine. The usual procedure in studying urethral or prostatic secretions is to dry and stain them in an effort to identify the suspected gonococcus or various types of mixed or non-specific organisms. In this manner the presence of the flagellates would be overlooked for upon the stained slide they would resemble pus cells and of course have no motility. To identify the motile organisms the specimen should be examined under the microscope quickly before it has had time to cool or dry. It is preferable to have a microscope in the treatment room where the diagnosis can be made easily. Precautions towards the prevention of cooling and drying should be taken if the specimens are to be sent to a laboratory. Motility is visible at about 70° F and is most active at 90° F. Above this temperature it begins to diminish and ceases all together at about 118° F.

The presence of the flagellates can easily be detected with the low power lens of the microscope, without a cover glass. They will be seen to move about the field in a characteristic manner. No attempt will be made in this discussion to describe in detail the structure and physiology of the Trichomonas Vaginalis. The literature abounds with such descriptions.

Every urologist sees a host of cases presenting evidences of inflammation of the low urinary tract which are diagnosed as non-specific urethritis; mixed infection, and so forth. Of these cases it is believed that very many of them are, in reality, instances of Trichomonas infestation, and that many of them would be properly recognized were the specimens in such cases routinely examined unstained, and while still warm. Streptococci appear to be especially prone to occur along with the trichomonads.

TREATMENT

The treatment for T. Vaginalis of the male is essentially the same as that required for the non-specific infections of the urethra and prostate consisting of instillations, injections, massage and proper dilatation. Regarding the antiseptic solutions employed, weak silver nitrate solution is heartily recommended by most writers, while some suggest acriflavine or metaphen. Pelouze states that diathermy is necessary to completely eradicate the T. Vaginalis infestation. He has successfully employed prostatic diathermy after which a 1/3000 acriflavine solution is injected into the bladder with a bulb syringe, holding some of the solution in the anterior urethra for 10 minutes. Treatment is given on alternate days and he reports that no trichomonads have been found after the fourth treatment. He insists upon six consecutive treatments and then two more one week later.

Drummond's treatment consisted of irrigating the posterior urethra with metaphen 1:8000 and injecting electargol 3 c.c. into the lateral lobes of the prostate through the McCarthy pan-endoscope with an intraprostatic needle. He states one such treatment is all that is required to eradicate the infection from the prostate and that repeated cultures several months after such treatment failed to reveal the presence of the trichomonads.

From my experience with the one case to be described, I believe sulfanilamide has some merit. It was given in 20 gr. daily doses with apparent benefit, along with local treatment consisting of massage, dilatation of urethra and weak silver nitrate injections. Possibly the effect on the usually associated streptococci and various non-specific organisms is the principal mode of action of sulfanilamide. Certainly it has been employed with seeming benefit in certain cases of prostatitis and urethritis of non-specific origin, as well as with the specific cases.

CASE REPORT

A male, age 42, presented himself with the com-plaint of a slight burning on urination and a slight discharge. These symptoms had been present for two days. He stated that he had never had gonorrhea or any discharge previously. Upon examination the first glass of urine was seen to be slightly cloudy and the second glass clear. Urinalysis was negative throughout except for a large amount of pus. A uretheral smear was stained which showed a large amount of pus and a fair amount of mixed infection. Gonococci were not demonstrable. He was given daily instillations of 5% silver nucleinate along with four 5-grain sulfanilamide tablets each day. In two days the urethral discharge had completely cleared and both urines were clear. The patient was a traveling man and left town at this stage of the treatment for two weeks. Upon his return there was again present a slight urethral discharge. Repeated examinations of urethral smears gave the same findings as did the original examination. Periodic prostatic massage was now started

and the prostate was found to be slightly enlarged, tense, and excruciatingly tender. Stained specimens revealed a considerable amount of pus, and mixed infection. He again left town for one week and upon his return there was no discharge and another massage was given. On this day a drop of the prostatic fluid was placed under the microscope to ascertain how well the pus content was diminishing under treatment, as is customarily done from time to time in treating such cases. To my surprise, I observed the characteristic motility of the flagellates. The presence of Trichomonas Vaginalis in the prostatic fluid was confirmed by protozoological study in a clinical laboratory. The patient again left town for a week and upon his return no motility was discernable in the prostatic fluid; the amount of pus had greatly diminished and a goodly amount of lecithin bodies were present. The gland was considerably less tender.

As he was out of the city most of the time and was not seen except periodically his progress was probably not as speedy as if treatments could have been given at regular intervals. During the long periods while away he took Sulfanilamide 20 gr. per day until nausea and sense of fatigue necessitated temporary discontinuance of the drug. He was able to tolerate only 4 tablets per day, and this dosage could not be continued for many days before undesirable symptoms manifested themselves.

With this case the above described oral medication plus massage and weak silver nitrate instillations appeared to eradicate the infection, satisfactorily.

SUMMARY

1. The literature reveals new and increasing interest in T. Vaginalis infestation in the male.

2. It is now apparent that many cases of nonspecific, or mixed infections of the urethra and prostate, are in reality due to the T. Vaginalis.

3. Husbands of wives harboring the T. Vaginalis are very apt to show the presence of the trichomonads in their prostatic secretions.

4. Unquestionably, the presence of the T. Vaginalis in male secretions will be found more often when such secretions are routinely examined unstained and while still fresh and warm.

5. A case of prostato-Urethritis due to T. Vaginalis is described.

Mills Bldg.

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Hyperpyrexia

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ALTHOUGH introduced over 60 years ago as a treatment for general paresis and other mental diseases, it has only been during the past few years that this form of therapy has become quite generally used.

For the past 30 years malaria artificially induced has been the chief method of producing fever, and many series of case reports are to be found in the literature; some of them reporting a death rate from this method of as high as 30%. If malaria has not been entirely supplanted as a means of inducing fever during the past few years, it is entirely due to ignorance or lack of sufficient consideration for the patient's welfare. Its place has been taken by artificial inductotherm fever for three reasons:

1. Artificial fever is far more than twice as effective.
2. Having passed through the experimental phase and when given with the most modern equipment, artificial fever induction is followed with an almost negative death rate, while fever treatment produced by malaria even after being used for so long a period of time is followed by a death rate of from 10 to 30 per cent.
3. When a person is infected with malaria, we have two diseases to treat rather than one, the temperature is not constant, nor is it easily controllable, and seldom reaches a point sufficiently high to be of distinct value without being dangerous.

As to the methods of inducing artificial fever, those such as hot water baths, electric light and infra-red cabinets etc., which raise the patient's temperature with heat applied from without the body, elevate the patient's pulse as much as 30 beats per minute higher than in those patients treated by modalities which generate the heat within the body. It necessarily follows that the former methods are followed by a more frequent tendency to collapse; a more severe strain is placed on the nervous system and the patient's loss in strength and weight is frequently sufficiently great to offset the beneficial effect of the treatment on the condition being treated. Therefore, anyone who uses these methods when the safer and more effective one is available is forgetting the best interest of the patient whom he is serving. Artificially induced fever produced by the inductotherm method is also much more easily controlled, making it possible to reach a point with the induced fever which will be sufficiently high to be of distinct therapeutic value and yet be under control at all times so that no harm can befall the patient. It is possible with this method to maintain temperatures of 107 degrees Fahrenheit for from 5 to 15 hours with comparative ease and without more than very slight risk.

With this sort of apparatus patients in advanced stages of diabetes, with organic heart disease, with advanced arteriosclerosis, with diseases of the liver and the like have been and are being treated, and the death rate still remains practically nil.

This therapeutic measure is of definite and proven value in certain conditions, of questionable value in others and of no value in still others. There is much yet to be learned of its usefulness and no doubt it will be found to be of distinct value in certain conditions for which it has not yet been tried nor recommended.

Artificial fever therapy has bcome a valuable adjunct in the treatment of gonorrhea, syphilis, pelvic inflammatory disases, acute and chronic arthritis, multiple sclerosis, psoriasis, undulant fever, some cases of eczema and a number of other infections and metabolic diseases.

Acute syphilis does not respond readily to this form of therapy, requiring many very high fever treatments to kill the spirochete in the human body so that the patient is actually rid of the acute syphilitic infection, whereas in the chronic, especially the neurosyphilitic, comparatively low fever will produce remarkable results symptomatically speaking. It produces striking results in syphilitic aortitis cases as well as in cases of multiple sclerosis.

It is a specific for gonorrheal arthritis, the patient obtaining relief usually within an hour of treatment, coming out of the first treatment free of pain and remaining so.

Acute gonorrheal urethritis may be aborted with one treatment in many instances. This is dependent somewhat upon the thermal death rate of the organism with which you are dealing in the particular case. Sulfanilamide used in combination with the fever therapy increases its effectiveness, reducing the amount of each therapy necessary to obtain results. Hyperpyrexia will immediately relieve the pain and discomfort attendant to gonorrheal complications such as prostatitis, seminal vesiculitis and epididymitis.

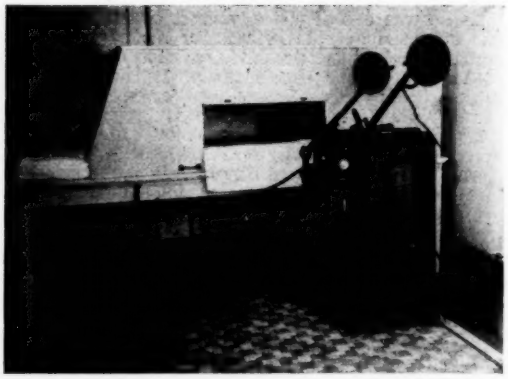

Fig. 1. Inductotherm with Author's Cabinet.

I do not feel that the Do's and Don'ts fall within the scope of this paper but wish to say that there are scores of important items to be carefully looked after while giving such a treatment. To overlook any of them may invite disaster and therefore it is extremely important that a specially trained attendant thoroughly familiar with every phase of this form of therapy should be in constant charge of such a treatment throughout its entirety.

The greatest danger from artificial fever is from a reckless effort to produce high fever regardless of danger signals, inexperienced operators, inferior cheap equipment and ruthlessness on the part of physicians who will refer patients to others not properly equipped either with adequate apparatus or experience to administer such treatments.

Quite authentic statistics have been presented and generally accepted estimates state that there are at least 12,000,000 syphilitics now among us; which means that one in every ten has it. The prevalence rate is increasing with such rapidity that some authors claim that complete syphiliza-

tion of the republic is a definite possibility during the next few years.

In my first 18 months of artificial fever administration I used a Liebel Flarsheim De Luxe Short Wave Unit in conjunction with a bag. I then had a cabinet constructed which is herewith illustrated. This cabinet is constructed according to the plans of Dr. Edgar G. Ballenger, who was so gracious as to permit me to use his drawings.

Lying in this warm or moderately hot cabinet, the complaints from the patients have become very greatly reduced, and it is possible to maintain a rectal fever of 107 degrees F. for from 5 to 10 hours with a pulse rate *seldom higher* than 130. The patient is usually able to go about his daily occupation the day following his treatment.

This cabinet is so devised that it can be opened at a moment's notice and the cooling down process started immediately. I am very happy to say that we have not had to avail ourselves of this convenience, however.

this eye varying from time to time from 20/200ths to 20/700ths. Various eye doctors as Dr. D. R. Gaskins, Phoenix; Dr. Lionel Albert, Tucson; Dr. John L. Donahue, Tucson; Dr. Dake Biddle, Tucson, and Drs. Swett and Graves of the Southern Pacific Hospital, San Francisco, examined him before and after treatment. He was given 14 treatments as shown in the accompanying chart. After the first three treatments his temperature was brought up to 107 degrees F. rectal with a rectal temperature above 105.6 degrees F. for over five hours. Combined with the treatments he received bismuth injections every five days for a series of 15.

He received his fever treatment at intervals of approximately five days from July 25, 1936, to October 19, 1936, skipping 23 days in September. On December 10, 1936, at the Southern Pacific Hospital at San Francisco, his diseased eye was given a 20/20 vision reading, his spinal fluid was found to be negative and he was pronounced cured. He was subsequently returned to duty as a brakeman. One year has elapsed without the slightest indication of a return of the condition.

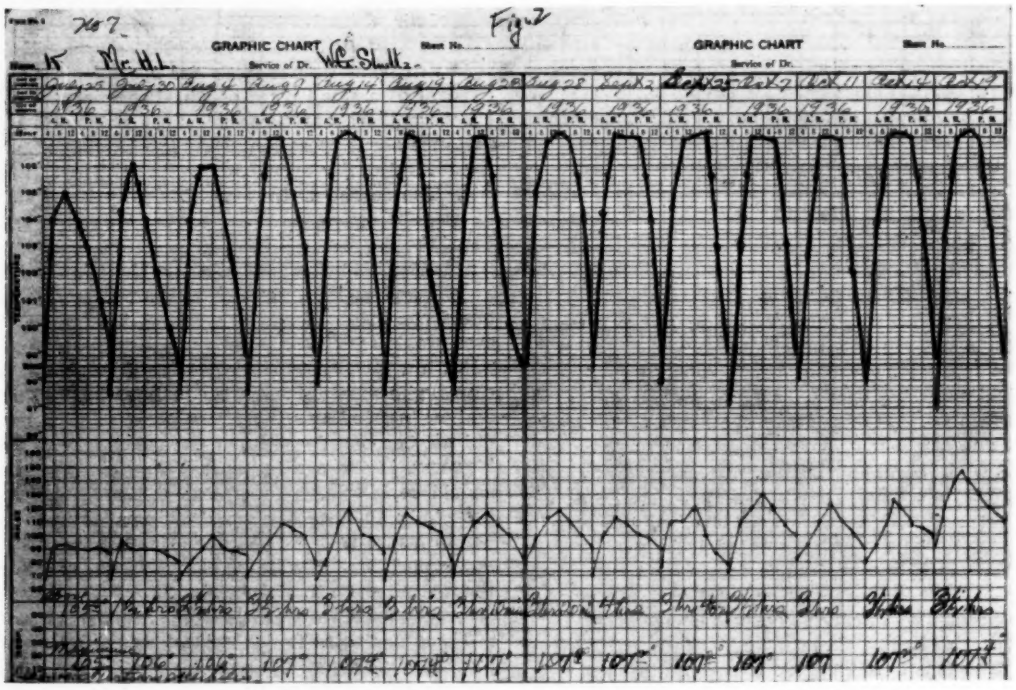

Fig. 2. Graphic Chart of Patient in Case 1.

I do not feel that this paper should be burdened with case reports, but am compelled to submit the following briefly:

Case No. 1. Mr. H. L. K., age 45. Diagnosis, classical syphilitic choroidoretinitis. Patient had received nearly one year of antiluetic chemotherapy before reporting to me. Eye condition had developed during and in spite of the chemotherapy.

His blood tests had become negative but his spinal fluid remained three plus. The right eye appeared practically normal but the left showed a classical syphilitic choroidoretinitis, the vision of

Case No. 2. Patient, age 46, diagnosis asthma. Duration of asthma 40 years. Results unaffected. Hardly a test case.

Three cases of Chorea were treated. Results were very satisfactory in two. One, age 16, discontinued after third treatment because of discomfort. Mother's "great big grown boy" did not wish the treatment. The bag was being used. The cabinet might have kept him coming. His condition seems improved, nevertheless.

In eighty-eight treated for gonorrhea the re-

sults were uniformly good with much improvement noted since the addition of Sulfanilamide. With cooperation, all cases should be cured within a comparatively short time.

In closing, I wish to say that the excellent results reported with artificial fever are not obtained without constant care and assiduous attention during the entire procedure. The patient should be given adequate preliminary study. Constant alertness must be maintained throughout the treatment by one capable of being alert, and modalities must be used which are capable of producing and maintaining a fever which is sufficiently high to be effective. We must not forget that the inductotherm method is by far the safest.

603 Valley Bank Bldg.

Treatment of Empyema*

VICTOR STRONG RANDOLPH, M.D.
Phoenix, Arizona

I KNOW of nothing new in the treatment of empyema of the pleura. The value in talking about it lies in the emphasizing of adequate early treatment so that the illness may not be prolonged for months or years into a state of chronic empyema.

Various types of empyema occur. Tuberculous empyema I will not discuss, as it is a subject by itself, nor the empyemas due to the various types of fungus organisms. The ordinary empyema is of the streptococcic or pneumococcic or rarely of staphylococcic etiology. It occurs most commonly following pneumonia less often following abscess of the lung, or following trauma to the chest wall.

In a typical case the recovery from pneumonia is interrupted by an exacerbation of fever and the picture of sepsis. Routine examination will usually disclose the presence of fluid in the chest, and this can readily be verified by simple aspiration.

TREATMENT

At this point aspiration is the most important treatment. Pneumonia is sometimes followed by the formation of clear, sterile, pleural fluid. This fluid may disappear following aspiration, or on subsequent aspirations it may show infection. I think in one case I may have traumatized the lung during aspiration and caused a pneumococcic empyema to develop. However, fluid may be sterile at one aspiration and infected at the next without trauma.

Aspiration should be repeated at daily or frequent intervals if the patient is febrile and the pus is thin. Some authors have reported that empyema in children may be cured by repeated aspiration. However, this has not been my experience, possibly due to the fact that I shrink from repeated aspiration of small children.

The physiology of the chest is such that operation early in the formation of empyema is dangerous. Opening of the chest allows air to enter. Many a person has a mediastinum which is quite mobile. In this type of chest the addition of air, and especially free opening of the chest to the outside causes a shifting of the mediastinum toward the opposite side of the chest. This in turn embarrasses the respiration of the opposite lung and the action of the heart. Therefore, aspirations of the chest should be continued until the early thin, watery, pus becomes thick and is filled with fibrin. Coincidentally with the appearance of fibrin there is an inflammatory reaction in the pleura of the mediastinum which causes the mediastinum to become fixed. It is then able to withstand the admission of air without shifting.

SURGICAL ASPECTS

At this point we are ready for operation usually removal of a small piece of rib. In my experience I believe there are three principal points of importance about operation. First the lowest point in the pleural cavity must be chosen for the drainage site. The second is that a sufficiently large tube be used for drainage. In a recent case I found that even the large-sized tube which I used became plugged with fibrin frequently and the tube had to be removed at least twice and cleaned before adequate continuous drainage was established. However, we do see cases at times which may be drained with a catheter. One such patient was a physician's wife who did not wish to have her rib cut and we inserted a tube between the ribs. This tube did not become plugged and the patient recovered. However, in the average case a large enough tube should be inserted at operation so that it will not have to be changed or cleaned out frequently in order to insure perfect drainage. Dr. Alexander recommended two tubes some years ago, one for drainage, the other an interspace above for instillation of irrigating solution.

The other point is not universally agreed upon; that is, that closed drainage should be instituted. My reason for insisting on closed drainage is that we can in this way aid the lung to expand. It is stated that the lung expands whether the drainage is closed or not, and I have had the experience of doing open drainage and having the lung expand satisfactorily. However, in those cases I have seen which did not heal and which developed a condition of chronic empyema, open drainage had been used. Since general surgeons customarily treat empyema, I have handled only about fifty cases, I believe, but in no case as yet have I failed to see the lung expand perfectly under closed drainage.

Empyema of the pleura cannot heal until the

*Read before the 2nd Harlow Brooks Memorial Navajo Clinical Conference: Sage Memorial Hospital; Ganado, Arizona, Sept., 1937.

pleural space is obliterated and no area remains in which pus can form. This means that the lung must expand fully and usually become adherent to the chest wall. The parietal and visceral layers of pleura are then in apposition and no space exists in which empyema may continue.

A number of tubes are made which are suitable for establishing closed drainage. I have used for a number of years the tube of Tudor Edwards of London. This tube has an inner flange which rests upon the parietal pleura, an outer flange which can be attached to the skin of the outer chest wall, and within the cuff, next to the drainage tube, there is a small tube insert through which one may irrigate the chest if desired. The drainage tube is attached to a long rubber hose which passes downward by the bedside and into a jar of sterile water. The end of the tube rests beneath the level of the water and air can pass from the chest and bubble out through the water but no air can enter the tube from the outside because of the water. There is a small column of water sucked up into the tube by the negative pressure of the chest and this in turn exerts a slight suction on the air in the pleura and therefore tends to aid the lung to expand.

When closed drainage has been established I favor irrigation of the chest, at first three or four times daily and later less often with salt solution. Dakin's solution may also be used at first in small quantities, and later freely. If irrigation is carried on through a single drainage tube, one must be careful not to over-distend the empyema pocket when injecting the irrigation solution. However, I do not know that irrigation is essential. I believe the chief purpose of it is to remove more completely the pus from the pleural surfaces and to keep the fibrin well washed out so that it may not plug the tube. No doubt most cases will recover well if no irrigation is used, provided free drainage is maintained. The temperature should come down in a day or two when drainage is well established.

COMPLICATIONS

A simple complication of empyema is the presence of a small pneumothorax, even when no abscess of the lung is present. Usually this pneumothorax disappears and the opening in the lung closes with the use of simple closed drainage. However, if the bronchial fistula persists thoracoplasty may eventually be necessary to close the empyema cavity. If abscess is present, drainage or lobectomy may need to be done.

Chronic empyema occurs when the lung has not been fully re-expanded during drainage of the empyema. One of the first cases which I saw was that of a woman about 25 years old who had had pneumonia followed by empyema 19 years before at the age of six. She was treated by tube drainage but evidently not completely healed, for in the intervening nineteen years she had had six additional operations for the empyema which kept recurring. However, her chest wall was healed. She had been aspirated repeatedly during the two or three months prior to my seeing her. Were I to see this case again I should attempt closed drainage, for it might have been possible even then to re-expand the lung sufficiently so that the visceral pleura would have become adherent to the parietal pleura. I think that many cases of chronic empyema might be treated in this way and more extensive operation avoided. However, in this case (and eventually in many cases the treatment would be the same) I removed the two or three ribs immediately over the pus pocket together with the parietal pleura, periosteum, and intercostal bundles, leaving the pocket entirely exposed to the air. The skin was sewn to the edges of the parietal pleura where it had been cut. In a few weeks this pocket filled in by granulation tissue and eventually was covered by skin. The patient recovered entirely. However, this woman had a great deal of illness during nineteen years and was left with a chest wall defect because of the fact that the empyema was not completely drained and the lung expanded originally.

A man 50 years of age gave a history of empyema at the age of 18, which was treated by rib resection and either open or tube drainage. His chest wall healed after a period of time, but he was never in good health afterwards. About a year prior to the time I saw him he began to have periods of fever followed by cough and expectoration of a large amount of purulent and greenish sputum. This would stop and after a few weeks or less he would again have fever with pain from which he would recover after a few days of cough and expectoration. At the time I saw him he had developed a superficial abscess in the left lower anterior chest wall. This was opened and bromopin injected. There was extensive deformity of the chest which I presume was caused by the long standing pleural infection which he had. There was a chronic empyema cavity present and portrayed by the bromopin. This man also was treated by resection of ribs overlying his empyema cavity and by the removal of sheaths of calcified parietal pleura in addition to the periosteum and intercostal bundles.

A boy 21 years old with a history of empyema at the age of 55, gave a similar history. This boy was cured by unroofing of the empyema cavity and the granulating in of his pleural pocket. In this case I attempted to cure the condition by instituting closed drainage, but a small bronchial fistula was present which prevented the lung from expanding. The fistula healed after the empyema pocket was unroofed.

If abscess is present the patient will not recover until the abscess is drained. A case in point was a man 47 years old who had pneumonia sixteen months before I saw him. Rib resection was done for empyema after the pneumonia, the tube being in about four months, but after the tube was removed and the chest healed, he was aspirated re-

peatedly. A year later he had a severe hemorrhage and continued to expectorate blood at intervals during the following month or two. At the time I saw him I felt he had a chronic empyema and operated with the expectation of finding this. However, he had also an abscess of the lung. This was drained and recovery was without incident.

I could cite many similar cases of chronic empyema. The period following the original empyema varies from a few months to in one case thirty-two years. These chronic empyemas point ever so strongly to the need for early adequate drainage of acute empyemas of the pleura and re-expansion of the undiseased lung.

SUMMARY

1. The treatment of non-tuberculous empyema is discussed.

2. The drainage site must be at the lowest point in the pleural cavity.

3. A large enough tube must be used to insure continuous drainage.

4. Closed drainage is to be preferred

5. Irrigation is of some value.

6. Chronic empyema occurs when the lung has not been fully re-expanded during drainage of the acute empyema.

7. Chronic empyema may be cured by "unroofing" if bronchial fistula is not present.

8. Chronic empyema should be avoided by proper drainage of acute empyemas and re-expansion of the underlying lung.

Professional Bldg.

Conservative Management of Sinus Trouble

EARL H. BROWN M.D.
Tucson, Arizona

QUOTING from the Archives of Otolaryngology for August 1937. Progress in Otolaryngology as Regards Paranasal Sinuses:[1]

> "Rhinologists are coming to realize more and more that empiricism and dogma are things of the past and that success depends on a full knowledge of the many factors involved in the etiology. There seems to be developing a more wholesome regard for every part of the nasal mucosa, which is manifesting itself in a tendency toward conservatism in treatment both medical and surgical."

This paragraph when read was very gratifying. From examination and observation of patients who have had one to many nasal operations, the conclusion has been reached that at least half of the sinuses that are operated throughout the country are not improved. In fact, they are often made considerably worse by the surgical procedure. Many of these people are given up as incurable and are sent to a warmer climate—not because of real interest in the patient, but because the operator has tired of seeing them in his waiting room where they discourage his new patients. There are definitely diseased sinuses that need radical surgery, but it seems that there are few operators that use as good judgment as they should in selecting these cases.

Undoubtedly, the reason for the emphasis on surgery by rhinologists is our present system of teaching. Most of our rhinologists at present are trained by having a course in operative surgery at some hospital. There they learn to do the various operative procedures on patients sent in by outside doctors. They do not have the opportunity to observe these patients before operation for any length of time, nor to see these patients several months after operation to evaluate the end results of the surgery. There are very few institutions for rhinologic training in which the student gets any idea of the normal pathologic physiology of the nose. He learns mainly anatomy and the anatomic surgical approach to the sinuses. Naturally when he begins to practice he is able to apply only what he has learned. We have, then, the rhinologists of the old school, most of whom are very conservative as to operative work on the paranasal sinuses and, on the other hand, the younger and bolder men who chisel out all the noses they can get their hands on. They would much rather do some surgical procedure than to take the time to observe the patient and treat him conservatively for a while before jumping in with the gouge, the curette, and the biting forceps. Somewhere between these two there is the middle road down which we must endeavor to travel.

ANATOMY AND PHYSIOLOGY

Let us look briefly at the anatomical structure and physiology of the nose.

The nasal cavity is divided into two halves by the septum and hanging from each lateral wall of the nose are the three turbinates: the inferior, the middle, and the superior; and occasionally a supreme turbinate. Between the turbinates and the lateral nasal wall are, respectively from below upward, the inferior, middle, and superior meati. The whole of the nasal cavity is lined with a mucous membrane known as the respiratory type of mucous membrane. This membrane, sometimes called a mucoperiosteum, consists of ciliated columnar cells resting on a basement membrane. Beneath this is the tunica propria or subepithelial layer. It is composed of fibrous tissue, lymphatics, a rich vascular network, and tubulo-acinar glands of serous, mucous, and mixed types. This layer merges into the periosteum and is firmly adherent to it.[2]

The respiratory type of membrane, otherwise known as the Schneiderian membrane, covers the inferior and middle meati, the inferior and middle

turbinates and the corresponding opposite parts of the septum. This same type of epithelium not only lines these portions of the nose, but extends into all of the accessory nasal sinuses, back into the nasopharynx and from there into the eustachian orifices and out into these tubes as far as the middle ear. The mucosa covering the superior turbinate and meatus and corresponding portion of the septum is known as the olfactory type of mucosa. This is much thinner and more delicate than the mucosa in other portions of the nose. Many people with chronic ethmoid infections and who have had this portion of the mucosa destroyed by disease or by operation lose the sense of smell forever.

The nasal mucosa or respiratory membrane is thus a definite organ with definite functions such as: (1) sense of smell, (2) moistening the air, (3) filtration of air, (4) warming the air and controlling the flow of air into the respiratory system.[3]

This has been, probably, an unnecessarily elementary discussion, but it has been done in order to show that the respiratory membrane lining the septum and turbinate has a decided function, just as any other organ of the body. Therefore, we should not destroy any more of this tissue than is absolutely necessary. It has been shown that this respiratory membrane does not regenerate once it is destroyed. It is replaced either by fibrous tissue or by a stratified squamous epithelium similar to that in the mouth. The nearest approach to regeneration is a low cuboidal type of cell without cilia and without the protecting function of the original ciliated columnar epithelium.

Therefore, an attempt should be made to relieve the sinus patient by conservative treatment first, as: (1) local treatment to cleanse the nose and shrink the mucous membrane, thus promoting drainage from the natural ostia of the sinuses; (2) the building up of his resistance by whatever is necessary such as proper diet, rest, regulation of his endocrine unbalance, tonics for the blood-forming organs vitamin therapy, vaccines (autogenous and stock, or both); (3) complete allergic examination and therapy when indicated; (4) the removal of foci in the lymphoid structures of the oropharynx such as infected tonsils, infected adenoids, tonsil remnants; (5) the removal of pathological structures that interfere with proper nasal ventilation, as a deflected septum, spurs of the septum, polyps, polypoid hyperplasias of the turbinates, etc.

After these steps have been taken without improvement is the time to think of nasal surgery. Of course there are cases in which it is perfectly evident that surgery is the only course and these should be operated without procrastination. The aforementioned remarks are to apply, naturally, to the patients with chronic low grade infections.

MANAGEMENT OF SINUSITIS

Let us next take up briefly the management of the various sinus infections, the aim of which is drainage. The inferior meatus receives no drainage from any of the sinuses. The superior meatus receives the drainage from the posterior ethmoid cells. This drainage then passes backward into the lateral nasopharynx (spheno-ethmoid recess) where it may join with secretion from the sphenoid ostium. The sphenoid secretion may drop directly into the pharynx or it may flow laterally and drain down the latetral side of the pharynx

The middle meatus then is the important drainage area of the sinuses. It receives from before backward the nasofrontal duct which drains the frontal sinus, the maxillary ostia (one or several), and the anterior ethmoid air cells which drain by many ostia into the infundibulum of the hiatus semilunaris. The drainage in the middle meatus may be blown out the anterior nares, but more often it is liable to follow the curvature of the inferior turbinate backward and drain down the pharynx.

Considering a case of acute maxillary sinusitis first, we should give him the benefit of shrinkage, light suction, diathermy, general treatment such as anodynes, hypnotics, rest, etc. If he makes no progress by this treatment, then he deserves to have a sinus irrigation with warm normal saline solution puncturing high up under the inferior turbinate or by the so-called natural ostium technic. The sinus may be washd in this way when necessary over a period of several weeks. Then if there is continued trouble, it is best to bite off a very small anterior portion of the inferior turbinate and make an antral window for drainage. Antral windows may be made of most any size. Almost as much may be done to the maxillary through a large antral window as by a radical operation. An opening is made with a gouge and enlarged posteriorly and anteriorly with biting forceps. By removing the lateral nasal wall as far forward as the anterior attachment of the inferior turbinate a permanent window may be made. This region is called the pyriform crest (crista pyriformis) and the operation cristectomy.[4]

When the sinus mucosa is greatly thickened and diseased, has undergone polypoid degeneration, or is the seat of neoplastic growths, the route of choice is by the Caldwell-Luc technic. In this operation success really depends upon removing the entire contents of the cavity and not leaving mucosal remnants to start the infection over again. It is probably the most satisfactory of all our radical sinus procedures.

Frontal sinusitis, while not as frequent as maxillary infection, is a fairly common complication of acute rhinitis. Actual frontal sinusitis must not be confused with the so-called vacuum headache in the frontal region. In the latter condition, frontal headaches come on more or less abruptly and leave the same way. The mechanism is brought about due to the fact that the opening of the nasofrontal duct is closed either from the swelling accompanying acute rhinitis or as a result of allergy. The circulation of air thus being cut off from the frontal

sinus, the heat from the body with the rich blood supply absorbs the air locked up in the sinus and a vacuum is formed causing pain. Shrinkage of the mucosa in the area of the nasofrontal duct relieves these patients.

A very large proportion of frontal infections can be relieved by shrinkage, more than any other sinus infection, due to the fact that the nasofrontal duct promotes dependent drainage. Packs saturated with a solution of 2% cocaine and ephedrine placed high up under the middle turbinate and often followed by argyrol packs and suction will start the drainage. If this is not effective the middle turbinate may be infracted away from the lateral nasal wall and sometimes it is necessary to remove the anterior third of the turbinate by snare. The next step would be curetting the agger-nasi cells, which are a part of the anterior ethmoids. These cells are curetted from the neighborhood of the nasofrontal duct. After this procedure it is usually possible to pass a canula into the sinus through the duct and irrigate with normal saline. When these intranasal procedures do not give relief, the only course left is to make an external opening. The contents of the cavity are exenterated and drainage established down into the nose through the nasofrontal duct.

Now we come to the ethmoid sinuses, which consist of a number of small cells divided into the anterior and posterior groups, depending upon whether they drain into the middle or superior meatus. Probably one of the most common forms of nasal infection we have is as follows. The subject contracts an acute rhinitis with mucopurulent discharge going down the pharynx. This causes him to cough and gives him a "beefy' appearing pharynx. He recovers from his cold and feels fairly well except that his cough hangs on and he notices that he is coughing up considerable material which appears to come from his throat; most noticeable when he arises in the morning. Weeks or months afterwards he consults a physician because he thinks he has catarrh.

This clinical picture is brought about due to the fact that one or several of the species of organisms in the nose during the attack of acute rhinitis gain entrance to the ethmoid labyrinth and set up a low grade catarrhal inflammation in the mucosal lining. After the coryza clears up the low grade infection continues and the mucosa secretes an excessive amount of thick mucoid discharge. This is one of the hardest forms of sinus disease to relieve. However, much can be done for these people by local shinkage, suction and vaccine therapy. Best results are obtained from autogenous cultures taken directly from the ethmoidal bulla.

The ethmoidal infection may be also of an acute fulminating nature, at times causing bitemporal and intra-ocular pain with disturbance in vision and sometimes orbital infection. In these cases it is best to remove the middle turbinate and open the ethmoidal cells to promote drainage. This may be followed by local shrinkage and argyrol packs. Occasionally it becomes necessary to do an external ethmoidectomy, by the Ferris-Smith or the Sewell technic.

The sphenoid is the least frequently infected of all the sinuses. When it is, the consequences may be serious. Sphenoid infections usually cause pain in the vertex, and sometimes occipital pain. In low grade infections the main symptom may be postnasal discharge. In more acute infections, optic nerve inflammation is a common symptom. The optic nerves pass along the lateral walls of the sphenoids and occasionally in the walls due to bony dehiscences.

The sphenoid may be drained by spraying cocaine or ephedrine solution on the ostium. This may be done by passing the spray tip through the nose or up behind the palate. It may be necessary to break into the anterior surface and make an opening into the sinus. This can only be done after removal of the middle turbinate in order to get a good view. The above is about the extent of sphenoid surgery that is safe, and it usually suffices. It is not wise to curette the sphenoid cavity for danger of injuring the optic nerve. Some relief may also be given these patients by the Proetz method of air displacement with shrinking solutions.

SUMMARY

This has been a very sketchy outline of the general treatment of sinus disease. It has not taken into account the very acute fulminating sinus infections occasionally encountered. This type of infection, as it presents the dangers of intracranial complications, orbital infections, septicemia and infective phlebitis, demands immediate intervention. Drainage must be obtained as soon as possible and usually by surgery. Sulfanilamide is a boon to these people, and frequent transfusions are often life saving.

On the other hand, when dealing with low grade chronic infections so frequently seen, it is advisable to stop and ponder—whether the patient is absorbing from the infection; whether the basis of the nasal pathology is allergic; whether due to disturbed metabolism, endocrine unbalance or vasomotor disturbance—and most important of all, to try to evaluate the end results of whatever operative steps are planned. It is best to decide beforehand whether the patient is going to be made more comfortable or whether, by having unreplaceable tissue removed from his nose, he is going to be more unhappy than he is. In our enthusiasm to do something to the sinus, it must not be lost sight of that what is most desired is to have a happy, healthy patient and a good friend. A great many radical sinus operators soon have more enemies than friends among their former patients.

130 South Scott Street

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POST GRADUATE EDUCATION

Upon no group in modern civilized life does the responsibility for keeping abreast of the times rest more heavily than upon the medical profession. The constant restless changing of the body of medical knowledge in all of its phases makes it imperative that the practitioner be ever alert to acquire new knowledge which may benefit his patients. The extensive under-structure of information, which any physician should have, is so voluminous that none can fully hope to attain his ideal of relative perfection in his profession or specialty. Limitations of memory require constant review. Few physicians could pass an examination in the pharmacology of the drugs which he uses most without a general review of the subject. One month out of each year of every physician's time could well be spent in endeavors along the above line. The need of this type of review and instruction has given rise to a new type of medical meeting which is patterned after the international post-graduate assembly. Several sections of the United States now hold these meetings annually and their value is attested by the tremendous popularity which has been accorded them.

For several years the Southwestern Medical Association Meeting has been designed to supply part of the need for post-graduate instruction in the southwest. These meetings represent an opportunity for the physician to attend courses without the great expense of traveling long distances for them. Our Southwestern Meeting can only grow in proportion to the serious demand on the part of the physicians in our locality, and depends also largely on a willingness to sacrifice to attend these meetings and make them increasingly successful. The larger the attendance the greater will be the scope which can be covered by the Program Committee, and the more there will be in each meeting for every individual physician. Attendance at these meetings should be regarded as a professional responsibility equivalent to compliance with the requirements for a medical license.

—HOWELL RANDOLPH, M. D.

MUNDUS VULT DECIPI

The fabled barter of the shiny, but worthless brass lamp for the powerful, but dull appearing, old lamp of proven worth provides a glimpse of a human trait that has been present since the dawn of evolution.

The world stands ready to be deceived. America has no monopoly on this kind of preparedness, despite the quaint suppositions of some of the foreign ambassadors of civilization who point the finger of derision at everything American. However, our clime has given root and nourishment to some of the most monstrous quackeries ever to see the light of day.

Perkins and the magic tractors; Palmer, the spine rubber; goat glands; "physical culture"; neurocalorimeters; radium water; healing belts; pseudo-religions—these and many more have sprung up, flourished like the green bay tree for a time, and then died an ignominious death. But throughout a force of sanity has existed steadily, unwaveringly—a bright credit to itself and to all mankind. Scientific reasoning, as exemplified by orthodox Medicine, has held open the door for the truants, has at the same time builded carefully a mansion of Truth where the disillusioned might come home to rest from the chase of the rainbow's gold.

The world stands ready to be deceived. As one quackery fades in public acceptance, another takes its place. That we know, and it avails not that men of reason decry the fact. Human nature has been pretty much the same through the years, although few of us may like the Machiavellian connotation of that admission.

The latest American quackery is the flood of planned propaganda now deluging the land which is calculated to convince the American people that organized Medicine has failed to answer the call of the sick and ailing of the Republic. Dull days in the editorial rooms of the nation's press may be turned into sure-fire, front page carnivals if any public trough banqueteer can be induced to spout a little wind on the subject of collective medicine. Interest, artificial and real, is now at fever pitch regarding any topic concerned with Medicine. The circulation hay must be made while the new fad shines. So, interviews, stories, surveys and editorials engulf the reading populace. Not strangely, the new quackery of trading the proven methods of Medicine for glittering new theories of collective medical care gains the lion's share of the space in the lay press. Understandingly so, for there is exciting news value to the new, particularly when

some of its spokesmen are so willing to dance at the end of the editor's strings. And no comparable group on earth has consistently matched the reticence of the American medical profession in tootling its own tuba.

The world stands ready to be deceived. In the name of the babies, the mothers and the fathers of this America, can organized Medicine stand by complacent while the newest quackery befouls the highest standards of medical science and public health ever known to mankind?

FIFTY-SIXTH ANNUAL MEETING NEW MEXICO MEDICAL SOCIETY SANTA FE

Advance announcement has been made of the program for the fifty-sixth annual meeting of the New Mexico Medical Society, scheduled to take place in Santa Fe on June 6, 7, 8. Headquarters will be at the La Fonda Hotel. All scientific sessions will be held in the lecture room of that hostelry. There will be a dinner dance on the evening of June 7. Registration, meeting of the Council and the opening session of the House of Delegates will occupy the morning of June 6, with the scientific sessions scheduled to begin on that afternoon at 2 p.m. The Mayor of Santa Fe is to open the meeting with an address welcoming the visitors to the convention city. Appropriate response will be made, after which the president, Dr. E. W. Fiske, will deliver the presidential message. On the opening day there is a smoker billed to follow the end of the day's work. Three full days of instruction are planned, with some of the most eminent teachers in America engaged to lead the scientific work. Dates of the Santa Fe session were set so that visitors could leave directly following this meeting and go to San Francisco to attend the annual meeting of the American Medical Association.

Santa Fe is thoroughly delightful in the early summer especially. Tired from a hard winter's work, the physician owes it to himself and his wife to take off a few days, and make the trip to Santa Fe, combining several days of valuable study with a needed vacation. The New Mexico Medical Society is anxious to have the opportunity to entertain a large number of visitors, and a hearty invitation has been extended the profession of the entire Southwest to attend their deliberations in the lovely, historic city of Santa Fe. Hotel reservations should be secured from the La Fonda Hotel immediately.

A full program will be carried in the May issue of SOUTHWESTERN MEDICINE.

Complete lists of the topics of the various speakers are not yet available, but here are the teachers engaged to date:

Dr. Felix Miller, El Paso.
Dr. Frank Goodwin, El Paso.
Dr. T. E. Carmody, Denver, Colorado.
Dr. Jas. J. Gorman, El Paso.
Dr. Henry Safford, jr., El Paso.
Dr. Horton Casparis, Nashville, Tenn.
Dr. Vern Hunt, Los Angeles, Calif.
Dr. Harold Habein, Rochester, Minn.
Dr. G. Werley, El Paso.
Dr. Elmer Belt, Los Angeles, Calif.
Dr. Arthur E. Smith, Los Angeles, Calif.
Dr. J. R. Van Atta, Albuquerque.

Negotiations are underway for several other speakers to fill in the already comprehensive program. Further announcement will follow later.

NEWER CONCEPTS IN SINUS THERAPY

More respect is accorded the sinus mucosa by modern trained specialists than was the practice only a few years ago. There is a growing recognition of the truism that Nature does the healing, after all is said and done. The days of useless meddling with an inflamed membrane are going fast. Too many victims of misplaced enthusiasm or downright ignorance are haunting the dreams of avid operators of yesterday. This is not to say that surgery does not occupy a valuable place in the treatment of sinus disease. Good surgery, after all, is principally the exercise of good judgment, and when good judgment is dictating the time and manner of surgery for an ailing sinus, good results are more often attained than not.

As is so well said by Brown of Tucson elsewhere in this issue of the journal, the principal end sought in any type of sinus therapy is simply adequate drainage of the infected organ. Methods of attaining that drainage must necessarily vary with the type and severity of inflammation present in the affected sinus. Which is to say that all cases of sinusitis are not candidates for surgery, nor are they all in need of medical care only. Experience, based on sound modern training, must determine the adequate, correct treatment indicated in each case.

It is disconcerting, to say the least, to hear the laity and many of the medical profession also declare that there is "no cure for sinus trouble." Such a statement simply displays woeful ignorance of the true state of affairs. An inflammation of a sinus has just as good prospects of a happy ending as an inflammation any where else in the body. That is, if meddling does not enter the picture. But meddlesome interference in any inflammatory process is apt to be attended by unhappy results.

ONCOLOGY

With a re-awakened interest on the part of the laity regarding tumors in general, it behooves the practitioner to study the entire field of tumor knowledge in the light of today's scientific research. Many new ideas are being aired, and some of the older ones are in a state of change.

Timely is the first of a series of articles on the newer attacks on this problem which is to be found elsewhere in this issue of SOUTHWESTERN MEDICINE. Jones of Philadelphia, working in the field of oncology at a tumor hospital, will review the subject of all types of new growths in some detail for the readers of this journal. The latest concepts of diagnosis and treatment of both benign and malignant tumors will be outlined. For purposes of review the series of papers are recommended.

Special Section

Arizona State Medical Association

J. D. HAMER, M. D.
Associate Editor

ATTENTION, ALL COUNTY SOCIETIES!

Appearing in this, the Arizona Section, of SOUTHWESTERN MEDICINE, are papers read before various county medical societies at their regular meetings. All county societies are eligible to submit such papers for publication in this section, by submitting them to Dr. J. D. Hamer, Phoenix, for this purpose. In this issue are two papers as part of a symposium presented in February before the Maricopa Medical Society with the remainder of the papers to appear in an early issue.

MEDICAL SURVEY

The American Medical Association, through its bureau of Medical Economics, is preparing forms whereby a survey of the medical care of all classes of sick may be made nation-wide through the county medical societies. AN OUTLINE OF SUGGESTIONS, serving as a basis of study, is now available with printed blanks for county society use soon to be released from the American Medical Association press. The Arizona State Medical Association plans to make this survey through its county societies and to develop a program of activity from the findings of such surveys. The matter of the survey will be optional with the county medical societies, but it is anticipated that all societies will wish to participate in this important study.

RADIO BROADCASTS

The Arizona State Medical Association is planning a series of spring broadcasts over Station KOY Phoenix, with dates of programs, subjects, and all details soon to be released. The Public Relations Committee of the Association will have the programs in charge. This committee consists of Dr. R. J. Stroud, Chairman, Tempe; and members J. D. Hamer, Phoenix; J. B. Littlefield, Tucson; A. K. Duncan, Douglas; Walter Brazie, Kingman.

MEDICAL TREATMENT OF PROSTATIC HYPERTROPHY

H. D. KETCHERSIDE, M. D.

Let me state first that there is no non-operative treatment for the relief of prostatic hypertrophy, and that when we speak of medical treatment we mean preoperative treatment, except for that very small group of cases with grave maladies, which would not be benefited by careful preparatory treatment, and any operation would never be safe, then palliative treatment only can be given.

It may be justifiable in some of these cases to instruct the patient in the use of a catheter, but I wish to impress upon you that many cases with severe heart and kidney damage, which were formerly thought to be hopeless, can now, by careful and prolonged treatment, be gotten into a condition where operation is safe, and further, advanced age alone is never a contraindication for operative relief. I believe an excellent rule for you to adopt would be to never give a patient a catheter for him to use on himself, no matter how hopeless the case may seem to you; if such a thing is done let a urologist take the responsibility after a careful examination.

Preoperative treatment: It is in the preliminary preparation that the greatest strides have been made in the reduction of mortality. It is principally through this work that the mortality has been reduced from 25 per cent to practically zero, except in desperate cases. In hospitals where this is not recognized the mortality still remains about 25 per cent. The period of preoperative treatment varies from a few days to six months or longer, and no rules can be established for the length of treatment. If a patient does not improve under preliminary continuous drainage, he will not improve following surgery.

The most important part of the preliminary treatment is gradual decompression and continuous drainage of the bladder, together with increased fluid intake if there is any elevation of the blood urea or evidence of dehydration.

Whether the bladder is drained by indwelling urethral catheter or suprapubic drain, I believe makes little difference except in those cases that do not tolerate well a urethral catheter. A bilateral vasotomy before a catheter is introduced will reduce the incidence of postoperative epididymitis.

High blood pressure was once thought to be a serious contraindication to prostatectomy, but it has been found that patients with high blood pressure tolerate surgery well if the blood pressure is carefully watched and sudden lowering of the pressure avoided. Sudden lowering of the blood pressure is apt to cause suppression of urine. Low blood pressure, if marked, is a more serious contraindication as it indicates myocardial damage or generally lowered vitality. Many of these cases will improve remarkably under prolonged bladder drainage.

Read before Maricopa County Medical Society, Feb. 7, 1938.

DIAGNOSIS OF BLADDER NECK OBSTRUCTION

JOHN W. PENNINGTON M. D.

Let me open this brief discussion of a large subject by saying that the establishment of a definite diagnosis of obstruction requires the correlation of several factors.

(1) A good history.

(2) A good physical examination, including rectal examination.

(3) A cystoscopic examination.

The history is very important and must be taken carefully, it is often necessary to spend from 30 to 45 minutes to get a good history.

The age of the patient should be the first question, as Hinman in his text states that of 100 men under the age of 50 years, 10 have hyperplasia; between 50-60 years, 20 are affected; between 60-70 years, 30; 70-80 years, 40; and between 80-90, 50.

Nocturia or voiding at night, number of times and for how many years this has been present. Urgency and loss of urine. Many patients will get a desire to void and unless a toilet is quite near, will lose their urine in their clothes. Frequency in the daytime, whether they urinate every three to four hours, or whether every 30 minutes to an hour. Sudden onset of frequency in men past fifty is a suggestion of carcinoma of the prostate. Hesitancy of starting the stream. Some men will state they have to wait 10 to 15 minutes, then will only pass a few drops of urine. Double voiding, that is, the patient starting to void then the stream stops, and after a period of from 30 seconds to 3 to 4 minutes, again beginning to pass urine.

Burning and smarting on voiding even up to sharp pain is a common story. Whether the patient has ever noticed blood in the urine; whether the urine has appeared cloudy or milky gives a suggestion as to the presence of pus and infection. Pus and infection, in my experience is not present in more than about 50% of men with obstruction, even though they may have a large residual urine.

The history of acute retention in the past, even for a period of an hour or two, is very suggestive. Many men will say that they have had periods when they were unable to express any urine from an hour or so, up to 12-15 hours, then became able to urinate again.

The history may be of no value at all, as some men may develop an acute retention without ever having previously had nocturia, or any noticeable difficulty in urinating.

The history of urethral discharge and epididymitis or acute symptoms is suggestive of pyelitis or upper urinary tract disease. One such condition was illustrated to us last year before this society by Dr. Bransford Lewis in his paper, "Stone Colic Without Stone", in which the renal colic was entirely due to bladder neck obstruction.

Sexual disturbance, as loss of desire, or pain and blood on ejaculation, may be the only symptom that can be brought out. Recently I saw a patient whose only complaint was blood in the semen, yet he had such a marked median bar that I was unable to pass a cystoscope without surgical anesthesia. He was entirely relieved by a resection removing 1 Gm. of tissue.

Cardio-vascular or gastro-intestinal symptoms are very prominent in the history of many patients and unless one takes into consideration the age of the patient and the possibility that these symptoms are secondary to a prostatic enlargement, the patient may be given a thorough gastro-intestinal study and his trouble in the end found by rectal examination of the prostate followed by a urological examination.

Examination: The examination will be limited to the urological tract for this discussion and it should be done in a routine manner: Palpation of the kidneys, palpation of the abdomen to see if pressure over the bladder area produces a desire to void. Examination of the external genitalia. Then observe the patient while he voids. This should be done casually as many men are unable to void while being watched. Note the hesitancy of starting the stream, the size and force of it, whether the stream slows, stops and starts again, dribbling at the end. Following the voiding do a rectal examination, preferably with the patient standing, noting whether the prostate is rounded, thickened or elongated. Many prostates which feel practically normal except for slight rounding, are the cause of marked obstruction. Recently I had a patient whose prostate felt normal by rectal examination, and the patient had 20 ounces of residual urine. Upon operating by transurethral resection, only 1.4 Gms. of tissue were removed. He made a very satisfactory recovery.

It is usually better not to catheterize the patient for residual urine, when there is strong presumptive evidence of a bladder neck obstruction, until you are reasonably sure he is going to have corrective measures carried out, as the simple passage of a catheter is not without grave dangers in a badly or even moderately obstructed bladder.

If the bladder can be percussed above the symphysis after voiding, the patient should be gradually decompressed over a period of from 24 to 72 hours, to try and prevent the severe hemorrhage from the bladder and kidneys, which may occur even with decompression.

When a catheter is first introduced, many men are quite sick for several days, with high temperature and may be very toxin even when you use the utmost care in establishing drainage.

A cystoscopic examination should always be delayed in any case there is a question of the renal function. An N. P. N. and a phenosulphonepthalein test should be made and if the renal function is impaired, cystoscopy may be delayed even several weeks. The cystoscopic examination is the final step in evaluating the degree and severity of obstruction. If the instrument requires considerable depression to introduce it into the bladder this is

suggestive of obstruction. The bladder is carefully examined for trabeculation cellules and diverticula, all of which indicate obstruction. In evaluating the vesical orifice and prostatic urethra, I believe I can give a much clearer picture with some drawings.

Read before Maricopa County Medical Society, February 7, 1938.

SPRING CLINIC CHILD-MATERNAL LECTURES

Dr. Jack B. Eason, Child-Maternal Welfare Division of the Arizona State Board of Health, has completed arrangements with the committee of the Arizona State Medical Association for a series of lectures on Obstetrics and Gynecology, to be held in Northern Arizona during May.

M. Edward Davis, M. D., Department of Gynecology and Obstetrics of the University of Chicago and of the Chicago Lying-in Hospital, will conduct the lectures in Prescott, May 16 to 18 inclusive, and in Flagstaff, May 19 to 21 inclusive.

The State Medical Association Committee, cooperating with Dr. Eason in arranging these courses includes, Dr. F. C. Jordan, Phoenix, Chairman, and Drs. Preston T. Brown, Phoenix, C. V. Barley, Tucson, C. E. Yount, Prescott, and George Thorngate, Phoenix, members. Physicians attending the lectures held in Phoenix and Tucson during February express appreciation for the excellency of the courses and have requested their repetition next year. Physicians from any section of the state may attend the courses at Prescott and Flagstaff which are entirely free of registration or other fee cost to the individual doctor attending.

COMMUNICATIONS

Sir:

The Fifty-sixth Annual Meeting of the New Mexico State Medical Society will be held in Santa Fe on June 6, 7 and 8, 1938.

The date of this meeting was purposely arranged one week in advance of the San Francisco Meeting of the American Medical Association so that physicians who wish to atteend the National Meeting can attend both meetings with a minimum loss of time. The weather in Santa Fe, with its elevation of 7,000 feet, is delightful during the month of June. Ample provision is being made for entertainment of the wives of the visiting physicians, and a large attendance is expected. Those who cannot come will miss much—an excellent Scientific Program and jolly good time.

The complete program will be ready by May first.

Let our slogan be, "On to Santa Fe!"

Very truly yours,

W. C BARTON M. D.,
Chairman, Program Committee.

Sir:

May we ask you to call the attention of your readers to the fact that the Western Branch American Public Health Association, will hold its ninth annual meeting in Portland, Oregon, June 6, 7 and 8, 1938. The program will be devoted to discussion of public health matters of special interest to the West, and will present speakers of National and Western prominence.

Inquiries should be addressed to Dr. William Levin, State Department of Health, 816 Oregon Building, Portland, or to the undersigned.

Sincerely yours,

W. P. SHEPARD, M. D.
Secretary.

Sir:

We noted with interest the editorial appearing in the January issue of your Journal with reference to proper processes for home canned foods.

In view of the fact that each passing year continues to bring outbreaks of botulism caused by non-acid home canned foods, especially in the West and Southwest, we believe that editorial comment of this type is to be highly commended. The complete eradication of botulism from home canned foods is largely a matter of education of the home canner to the necessity of using pressure processes for certain food products. In this educational work physicians can and should play a prominent part.

We believe that the above editorial, as well as the ones which have appeared in the Journal of the American Medical Association during recent years are well worthwhile. Since outbreaks of botulism from home canned foods invariably cause suspicion to be cast upon commercially canned products, the canning industry is indebted to the medical profession for these efforts towards eliminating outbreaks of botulism caused by foods canned in the home.

We hope that your Journal will periodically call the attention of physicians to sources of reliable information for use by home canners In this connection we gladly offer the cooperation of this Department in supplying any information on processes or processing which might be required.

Very truly yours,

AMERICAN CAN COMPANY,
Research Department.
R. H. LUECK, Manager.

The Annual Meeting of the Arizona State Medical Association will be held in Tucson, April 21-22-23, 1938.

The Annual Meeting of the New Mexico Medical Society will be held in Santa Fe, June 6-7-8, 1938.

MISCELLANY

PROGRAMS FOR PNEUMONIA CONTROL

News from the field discloses lively interest among public health authorities in developing bold programs for pneumonia control in numerous states, handicapped by the fact that only 9 legislatures meet in 1938, and programs involving new appropriations in most states are therefore halted until the biennial legislatures meet in January, 1939.

At present writing (February 1st) the Surgeon General's committee of eminent physicians has not publicly reported, although its report is said to be nearing completion. It will doubtless include a recommendation for a long term research and educational program to be conducted by the Federal Government on the basis of funds to be provided in future budgets. Whether the program will involve state aid in the purchase of pneumonia serum or contributions to municipal programs is unknown at the present time.

Federal funds have been found for some such work in the current winter. Under Title VI of the Social Security Act, $8,000,000 was appropriated for grants-in-aid to the states and was all allotted prior to the beginning of this fiscal year; the states in turn submit budgets to the U. S. Public Health Service describing their proposed activities therewith and such budgets have included in Pennsylvania $60,000 and in Connecticut, $15,000 for purchase of pneumonia serum for free distribution.

It is apparent that Surgeon General Parran ranks his pneumonia plans as second only to the campaign against syphilis.

The Surgeon General has given his endorsement to a 12-minute film on modern serum therapy entitled "A New Day" prepared for free distribution to theatres by the Metropolitan Life Insurance Company. The film relates the story of a pneumonia case, explains the typing, shows the dramatic descent on the temperature chart and the final relief to the Father, the child and the dog when the doctor determines that Mother is out of danger.

The roll call of the states on pneumonia control programs discloses many that are conducting campaigns among the doctors, issuing publicity and training doctors, but only in the Northeastern states has there been important progress in obtaining appropriations for the free distribution of serum to indigents in line with the traditional distribution of diphtheria toxoid, tetanus antitoxin, etc.

In *Maine* the Health Department has established 23 typing stations and is spending an appropriation of $4,000 for the purchase and distribution of serum for indigents.

New Hampshire has two approved typing stations and an appropriation of $5,000 for free therapeutic serum.

Vermont has put the stamp of official approval on 14 typing stations. It buys and resells at government prices, through 13 depots, therapeutic serum for the benefit of indigents.

Massachusetts has its own biological plant which makes serum for six of the 32 types and this is distributed free through 80 approved typing stations supported by a vigorous campaign of propaganda.

Rhode Island seems to have done nothing.

Connecticut, with the aid of $15,000 of Federal Social Security funds, diverted to this purpose by authority of the U. S. Public Health Service, purchases serum for Type 1, 4, 5, 7 and 8 for distribution to patients unable to pay. The City of New Britain has supplemented this with an appropriation of $3,000 for the purchase of other types of serum.

New York State appropriated $400,000 for a pneumonia control program in March, 1937, and the funds have been used for purchase of horses and enlargement of the state's biological production in its serum plant for extensive campaign among the doctors to encourage them to have every case typed at one or another of a chain of state-approved typing stations and, finally, for distribution of free serum manufactured by the State and otherwise.

New York City likewiwse, has its own serum farm and laboratory and makes part of its requirements of serum. The rest it purchases with an appropriation of $100,000 and the serum is distributed free to indigents. In addition to this, a free typing station has been set up in each borough—the one in Manhattan gives 24-hour service.

New Jersey has arranged for free typing and various cities distribute serum free. The State Healt Department is at work upon a spacious program for the winter of 1938-9, contingent, of course, upon obtaining the necessary appropriation.

Pennsylvania has been permitted to use $60,000 of Federal Social Security funds for purchase of serum for free distribution and at last accounts, was asking for $25,000 more. In *Pittsburgh*, a city appropriation of $25,000 provides free typing and free serum.

Maryland has 7 state typing stations and furnishes serum at cost. *Baltimore* has an appropriation of $10,000 for free serum to indigents and 20 approved typing stations.

The *District of Columbia* has a $5,000 appropriation for pneumonia control.

Ohio, with a $5,000 appropriation, has trained 25 technicians in typing and has a request pending for $25,000 for purchase of serum for free distribution. In *Dayton* the Chamber of Commerce raised $3,000 and gave it to the City Health Commissioner for pneumonia control work.

The *Iowa* Department of Health, with Federal funds, supplies free serum for indigents.

Several states—*Alabama*, *Indiana*, *Illinois*, *Minneapolis*, *Oklahoma* and *Arizona* are reported as having provided for free typing at strategic points. There are numerous municipal hospitals which informally extend the privilege of drawing upon their serum supplies to doctors handling outside indigent cases and, of course, hospitalized cases, regardless of ability to pay, receive typing and serum treatment in hospitals all over the United States.

—BULLETIN LEDERLE LABORATORIES.

QUESTIONS ON STATE MEDICINE

At the risk of being punched in the nose for dispensing a bit of gloom, we can't resist republishing for the consideration of readers of The Journal a letter received by the editor of California and Western Medicine from Dr. Harold I. Harris, Hollywood, on the subject, "If and When We Have State Medicine".

Some may say that Dr. Harris has exaggerated and paints a pessimistic picture, but none can say that he has not asked some very pertinent questions and furnished much food for thought, not only among members of the medical profession but among the laity as well. You may not agree with all his answers but you will have to agree with some of them—most of them, as a matter of fact.

His communication read as follows:

"What will be the status of the specialist if and when we have State Medicine? How will the vari-

ous specialties be classified? How will the men in the different branches be selected, on the basis of years of practice, years of post-graduate work, or by the number and kind of influential political friends, or on the basis of competitive examination, similar to civil service?

"Will postgraduate work be encouraged? If so, will the State pay for it, pay for the time off, similar to army regulation? Who will designate the places to study? Will that be left to the discretion of the individual physician, or will it be controlled by a board? If by a board, will it be composed of doctors or laity?

"What will be the psychological reaction of the mass of the profession toward the compulsory attendance of patients? What will be the stimulus for exhaustive study of puzzling cases?

"Will every section of the human anatomy be divided for special study and be under the jurisdiction of a specialist in that part? If so, what will be the result obtained by the narrow specialist in relation to other ailmnets of the same individual? Will it be necessary to have a dozen specialists in consultation if a patient should complain of symptoms in different parts of the body?

"What will be the inducement to physicians to write scientific articles?

"What will be the relation of physician to patient? What if an illiterate patient decides that the physician attending the case is not competent —will he go to the lay committee to complain, or will he go to some politician friend to have the doctor disqualified, or reduced in rank?

"If State Medicine becomes a practice, can the State stop there? What effect will it have upon the new graduates? Are they to become specialists as soon as they graduate, or must they go out in the field as general practitioners? If as specialists, who will pay for their time and tuition? The hospitals in which they study will have to conform to some degree with the plan and will they, as a consequence, be supported by the State? What then will become of the private donations to these institutions? If private bequests are withdrawn, will that increase the amount necessary to support the institution to be given by the State, and will that in turn increase the State's budget and in turn increase the taxes?

"If the physician is a State agent, will the medical students attending the State schools be subject to pay the present rate of medical tuition? If cheaper, what will become of the private schools?

"What will become of the various medical societies? What will be their value? Certainly not for medical protection, for if State Medicine comes, that in itself will show that the medical societies are not capable of protecting their interests. Certainly not to protect the lay people against themselves, because that will be too late. Will it be necessary to belong to a medical society to be in good standing? Do State officers, clerks, judges, and various other State employes belong to fraternities in order to be in good standing?

"If there is a change in the political situation, will the general practitioner of today be the specialist of tomorrow? If there are one hundred graduates, and a vacancy for only fifty doctors, what will become of the other fifty? Or will the State regulate the number it will need to be permitted to graduate or enroll? If a physician who is in ill health, or for other reasons needs to or desires to make a change from one state to another, will it be necessary to make a political application, medical application, or wait for a quota, or wait for a vacancy?

"If there exists an old-age law, will the doctor be removed after a certain age, and be placed on a pension? Will a surgeon be replaced at a younger age than a general practitioner?

"Who will be responsible for malpractice suits, the doctor or the State?

"If each physician asked himself each one of the foregoing questions, and made an attempt to answer as he thinks the situation might be, we would have a more concise idea as to the precise effect upon us and the laity if and when we have 'State Medicine'."

—OHIO STATE MEDICAL JOURNAL.

M. D. OR R. N.?

Since the famous Florence marched into the Crimea with reform in her soul and a grim glint in her eye, nurses have enjoyed an enviable reputation for initiative. In countless emergencies when a physician has not been present, they have pitched in courageously by themselves, alleviating suffering and often saving lives.

Nursing, however, like the other professions, suffers from the presence in its ranks of a minority who cannot seem to hew to the line of accepted ethics. Members of this minority are found particularly in the fields of public health and industrial medicine.

Take the industrial nurse. Her proper function is to assist the physician and to render those specific services for which she is trained. But in all too many instances we find that she sutures cuts treats burns and prescribes for colds, and a host of other routine illnesses.

This work is not in the nature of emergency service. Nor is it even supervised by a physician. It constitutes quite clearly, then, the illegal practice of medicine.

Certain employers with an eye for cheap medical labor are no doubt doing their share to nurture this situation. In communities where it exists, medical societies have their work clearly cut out for them.

In this connection, several very sensible points can be emphasized:

No nurse, registered or otherwise, is competent to practice medicine.

Any nurse who presumes to do so is criminally liable.

The employer is likewise liable for having retained an unlicensed person to furnish medical service.

—MEDICAL ECONOMICS.

SEDORMID NOT ACCEPTABLE FOR N. N. R.

Sedormid (dormire, Latin, to sleep is the therapeutically suggestive name of a sedative and hypnotic drug marketed by Hoffmann La-Roche, Inc.

The referee has examined seventeen pieces of advertising for Sedormid. Fourteen of these were recived in the Council's office during the years 1930-1936; three are found in the *Roche Review* for 1937. Not one word of warning to indicate that the use of Sedormid involves the least danger was found in these seventeen pieces of advertising; on the contrary, an advertising circular which the Council office received Oct. 1, 1935, contains the following:

"As a hypnotic, Sedormid is indicated in all cases of insomnia regardless of the cause of the sleeplessness."

"Sedormid is a carbamide, and is not affected by legislation aimed solely at barbiturates, ..."

"It is non-cumulative, even when taken regularly for long periods."

"Sedormid is an unusually safe sedative and hypnotic, producing its therapeutic effects in doses far below the possibility of toxicosis. It is very quickly and completely oxidized in the body and is rapidly eliminated, so that even after large doses only traces are found in the urine the day after administration. Cumulative effects are, therefore, entirely absent."

"As a daytime Sedative . . . Bromides, in ordinary doses, are too weak; barbiturates are too strong; Sedormid, neither bromide nor a barbiturate, meets the indication precisely."

It is stated many times in the advertising that Sedormid is neither a bromide nor a barbiturate.

but a carbamide. It may, in fact, be considered a derivative of alurate, one of the most active of the barbiturates in general use. Alurate is allyl-isopropyl-barbituric acid; Sedormid is allyl-isopropyl-acetyl-carbamide. Its pharmacologic and therapeutic actions resemble those of the barbiturates.

It is obvious that no single hypnotic is "indicated in all cases of insomnia, regardless of the cause of the sleeplessness"; that suitable doses of barbiturates are not too strong; that suitable doses of bromides are not too weak; that therapeutic doses of barbital are not toxic, since the therapeutic excludes the toxic though, of course, doses usually used therapeutically may cause toxic effects in some patients, especially when they are given in unsuitable cases.

Fontanier reported fatal poisoning by fifty-one tablets (12.75 Gm.) of Sedormid, the amount being equal to the average fatal dose of barbital for man. The symptoms were closely similar to those seen in fatal barbital poisoning and included unconsciousness, rapid and stertorous respiration, irregular and intermittent pulse of increased frequency, miosis, abolition of the corneal reflex, increased temperature and, latetr, bronchopneumonia. The histologic changes in the central nervous system were identical with those observed after fatal barbital poisoning.

Verbiest reported severe poisoning in a patient of 50 who had taken twenty tablets containing about 5 Gm. of Sedormid. There was unconsciousness, with cardiac weakness requiring active treatment, followed by complete recovery in three days.

Six observers have reported eleven (possibly twelve) cases of thrombopenic purpura following the use of repeated small doses of Sedormid. It is not necessary to discuss these further in this place, since several of them are discussed by Hoffman, Kahn and Fitzgibbon in this issue of The Journal.

The Council declared Sedormid (Hoffman La-Roche, Inc.) unacceptable for New and Nonofficial Remedies because of the dangerously misleading statements in the advertising (conflict with Rule 6).

—J.A.M.A.

NEW AND NON-OFFICIAL REMEDIES

Neoarsphenamine-D. R. L. (See New and Nonofficial Remedies 1937, p. 86).

The following additional dosage form has been accepted:

Neoarsphenamine and Metaphen-D. R. L.: Packages containing five ampules of neoarsphenamine-D. R. L. 0.04 Gm. each and one bottle (20 cc.) of metaphen solution 1: 1,000.

Actions and Uses.—Neoarsphenamine and metaphen is proposed for the treatment of Vincent's gingivitis and stomatitis.

Dosage.—Neoarsphenamine 0.04 Gm. is diluted with 4 cc. of the 1: 1,000 aqueous solution of metaphen and the resultant solution is applied topically.

Concentrated Pollen Antigens-Lederle (See New and Nonofficial Remedies 1937, p. 35).

Mixed Grasses Concentrated Pollen Antigen-Lederle (*June Grass, Orchard Grass, Sweet Vernal Grass, Red Top and Timothy, in equal parts*). Also marketed in five syringe packages (series D), each syringe containing 3,000 pollen units; and in five syringe packages (series E), each syringe containing 6,000 pollen units.

Metaphen (See New and Nonofficial Remedies, 1937, p. 295).

The following dosage form has been accepted:

Metaphen Ophthalmic Ointment: Metaphen 1: 3,000 in an ophthalmic ointment base containing anhydrous wool fat 25 per cent and petrolatum 75 per cent.

Pollen Antigens-Lederle (See New and Nonofficial Remedies, 1937, p. 37).

Mixed Grasses Pollen Antigen-Lederle (*June Grass Orchard Grass, Sweet Vernal Grass, Red Top and Timothy in equal parts*); Also marketed in five syringe packages (series D), each syringe containing 3,000 pollen units; and in five syringe packages (series E), each syringe containing 6,000 pollen units.

Mercuric Succinimide (See New and Nonofficial Remedies, 1937, p. 288).

Ampoules Mercury Succinimide 0.01 Gm. (1/6 grain); Mercuric succinimide-U. S. P., 0.01 Gm., in distilled water to make 1 cc.

Prepared by the Lakeside Laboratories, Inc., Milwaukee.

NEWS

General

The Children's Bureau of the U. S. Department of Labor has designated Sunday, May 1, as Child Health Day.

Child Health Day activities are sponsored by the Children's Bureau at the request of the State and Provincial Health Authorities of North America in accordance with the Congressional Resolution of May 18, 1928, which authorized the President to proclaim May Day as Child Health Day.

State May Day chairmen appointed by State health officers arrange for the cooperation of State and local public agencies and private organizations in planning May Day activities that will contribute to year-round child-health activities. State departments of education cooperate in planning school Child Health Day programs.

Of interest is the program of the American Association of Industrial Physicians and Surgeons 1938 meeting.

Acquaintance with industrial medical problems is increasingly important to every physician and surgeon whether he be exclusively in private practice or identified, in whatever relation, with industrial practice. Thus, he will do well to mark on his calendar June 6, 7, 8, 9, 1938, for this meeting of the American Association of Industrial Physicians and Surgeons, which will be held concurrently with the Midwest Conference on Occupational Diseases at the Palmer House in Chicago.

Scientific and technical exhibits will be a feature of this important and instructive convention, and any reference to exhibits should be addressed to A. G. Park, Convention Manager, 540 North Michigan Avenue, Chicago.

El Paso

Following the semi-monthly dinner of the El Paso County Medical Society held on February 28 at the Paso del Norte Hotel the scientific program was given as below:

1. Empyema of the Thorax—Dr. Paul Gallagher.
2. Jejunostomy Following Gastro-enterostomy—Dr. E. J. Cummins.
3. Clinical Pathological Conference (Case Reports)—Dr. Robert Thompson.

Many out-of-town physicians were guests at the regular dinner of the El Paso County Medical Society given at the Hilton Hotel on March 14. Dr. John Hardy who has a new text book on "The Acute Abdomen" in press, gave a review of his observations on this topic, gleaned from many years in active surgical practice. Dr. K. D. Lynch presented "Pain as a Significant Symptom in Kidney Pathology", illustrating his lecture with lantern slides. It was announced that Dr. Morris Fishbein, editor of the Journal of the American Medical Association, who is scheduled to speak before the Arizona State meeting in April, will stop over in El Paso to address the El Paso Society and its Woman's Auxiliary on the night of April 19.

AUXILIARY NEWS

Arizona

In spite of the illness of many members and a number of officers, there were fifty-five present at the luncheon in Tucson, February 14, in honor of our National President, Mrs. Augustus S. Kech of Altoona, Pennsylvania.

Those who came from out of town were: Mrs. James Meason, Chandler, Director and Past State President; Mrs. C. Laurence von Pohle, Chandler, Second Vice-president of the State and Program Chairman; Mrs. George Thorngate, Phoenix, President of Maricopa County Medical Auxiliary; Mrs. J. D. Hamer, Phoenix, State Chairman of Legislation; Mrs. Charles Smith and friends from Nogales.

Due to illness of Mrs. Charles Ector Patterson, State President, Mrs. Charles A. Thomas, Tucson, Past State President presided at the luncheon. Following a musical program of violin and vocal solos Mrs. Kech was introduced and gave a most interesting address on the outstanding work that has been accomplished by women who have worked earnestly for the auxiliary.

At the board meeting later in the afternoon Mrs. Kech entered into a very informal discussion of auxiliary problems and gave the board members many helpful suggestions.

The members were delighted with Mrs. Kech's charming personality and were impressed by the knowledge of the various avenues of service and the many important problems confronting the auxiliary many of which they did not dream existed. Mrs. Kech's visit stimulated a genuine interest among the members.

We must now concentrate all our efforts and energies on plans for the State Convention; for we hope to make it the largest and most successful ever. Make your reservations early at headquarters, Santa Rita Hotel for April 21, 22 and 23. Do not let an opportunity pass to stimulate interest in the convention.

Mrs. S. H. James of Tucson has been appointed general chairman of arrangements for the State Auxiliary Convention. Due to illness of some of the members, a definite program of entertainment cannot be given at this time, but plans are being made and you will be notified as soon as they are completed.

Dr. and Mrs. R. B. Homan of El Paso, Texas, are planning to attend the entire convention, and the latter will appear on the program of the auxiliary as a guest speaker. Mrs. Homan is a Past State President of Texas and is now serving on the National Board as Chairman of Archives.

County Treasurers must send their reports to the State Treasurer. Each county president must send her annual report to the state president and delegates and alternates to the convention must be elected by each county auxiliary, so begin now to become convention conscious.

MRS. J. B. LITTLEFIELD,
State Publicity Chairman.

STAFF PROCEEDINGS

St. Joseph's Hospital, Phoenix

SUMMARY OF PNEUMONIA FOR JANUARY

LESLIE R. KOBER, M.D.

This report comprises data obtained from: (1) the hospital laboratory and (2) the completed hospital charts for January with a diagnosis of pneumonia.

In January the laboratory made 42 examinations of sputum by the Neufeld method for the determination of specific pneumococcus type, as compared to 16 in December; 11 of the 42 gave positive type reactions. The 42 were classified as follows: 5 Type I, one each of Types III. IV, VI, VII, and XIV, one in Group B but not carried any further, and 31 giving negative reaction to Group A, B, and C, serums.

In December there were 6 positive reactions and 10 negative in the 16 sputums tested By Types these were one each of Type I, II, and III, two Type VII, and one reacting both to Type I and Group C, that is a mixed infection.

In January there were 41 completed charts, i.e. patients who left the hospital with a diagnosis of pneumonia, as compared to 22 in December. Of these 15 were lobar and 26 atypical or bronchopneumonia in January as compared to 12 lobar and 10 atypical or bronchopneumonia in December.

In January there were 8 patients treated with serum, 6 out of 15 lobar cases and 2 out of 26 atypical; while in December only 2 patients out of 22 were given specific serum It is quite evident that search for specific type and treatment with specific serum has shown a big increase in the past month.

Also it is noteworthy that x-rays were obtained on 26 of the 41 patients during January, 20 or 75% of the atypical or bronchopneumonia cases were x-rayed, while only 6 or 40% of the lobar cases. This seems logical since the atypical or bronchopneumonia cases are usually the most difficult to diagnose; in fact on several of these patients it seemed questionable from the x-ray report whether the patient actually had pneumonia; several diagnoses of pneumonia were made after the x-ray showed consolidation; and several lobar were changed to bronchopneumonia or vice versa after the x-ray was taken, showing the exact diagnosis by physical examination may be quite difficult at times.

It is impossible to draw any final conclusions from the efforts made during the past 2 months in bringing the attention of the staff to the value of specific serum in the treatment of pneumonia but the mortality rate in the past 2 months has fallen from the previously reported 36% for 1936 and 1937 to 18% in December and 14½% in January in this hospital. If we suppose that the 8 patients treated with specific serum had not received the serum and that ½ or 4 of this number had died, our percentage mortality would have been 25%,

(Continued on page 154)

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STAFF PROCEEDINGS

(Continued from page 152)

or if all 8 had died it would have been 34% for January, or very nearly up to where it was for the previous months of 1936 and 1937.

I believe there is still room for improvement in the treatment of pneumonia in this hospital. Only 1 patient out of the 6 who died in January received serum, and that patient had a mixed pneumococcic infection (Type I and Group C), receiving only Type I serum. He also had a severe anemia, and was found at autopsy to have had a well-marked luetic aortitis. All of the serum treated patients except this one promptly recovered. All were given specific serum early in the disease.

However, 26 of the 41 cases of pneumonia in January occurred in children under 16 years of age, with 4 of the 6 deaths occurring in this group. Three of the 4 deaths were county patients, 3 of the 4 deaths were under 1 year old, and 3 of the 4 died within 36 hours after admission to the hospital. It seems that if we wish to reduce still further the mortality rate for pneumonia in this hospital we must not only continue to type the sputum and give specific serum early, but we must educate the mothers of the *children* as to the danger of delay in treating.

CHART # 1
SPUTUM TYPING FOR PNEUMOCOCCUS (NEUFELD METHOD) ST. JOSEPH'S HOSPITAL

MONTH	TOTAL	POSITIVE A,B, or C GROUPS	NEGATIVE A,B, or C GROUPS	CLASSIFICATION OF POSITIVE REACTIONS BY TYPE																	
				GROUP A				GROUP B						?	GROUP C						?
				1	2	3	4	5	6	7	8	9	10		1	2	3	4	5	6	
JANUARY 1938	42	11	31	5	0	1	1	1	0	1	0	1	0	0	1	0	0				
DECEMBER 1937	16	6	10	2	1	2	1	0	0	0	0	0	0	0	0	0	0	1			

CHART # 2
DISCHARGED FROM ST. JOSEPH'S HOSPITAL
DIAGNOSIS - PNEUMONIA

MONTH	TOTAL	LOBAR	ATYPICAL OR BRONCHOPNEUMONIA	SERUM TREATED	DEATHS
JANUARY 1938	41	15	26	8	6 (14½%)
DECEMBER 1937	22	12	10	2	4 (18%)

CHART # 3
JANUARY PNEUMONIA DISCHARGES FROM ST. JOSEPH'S HOSPITAL

TYPE	TOTAL	DEATHS	TYPED	NOT TYPED	SERUM TREATED	X RAY MADE
LOBAR	15	2 (13%)	8 (57 3-)	7	6	6 (40%)
ATYPICAL OR BRONCHO-PNEUMONIA	26	4 (15%)	15 (3+ 12-)	11	2	20 (75%)

CHART # 4
PNEUMONIA DISCHARGES FROM ST. JOSEPH'S HOSPITAL FOR JAN. BY AGE GROUPS

TYPE	ADULTS (16 YRS AND OVER)			CHILDREN (15 YRS AND UNDER)		
	CASES	SERUM TREATED	DEATHS	CASES	SERUM TREATED	DEATHS
LOBAR	7	4	1	8	2	1 NO SERUM
ATYPICAL OR BRONCHO-PNEUMONIA	8	1	1 NO SERUM	18	1	3 NO SERUM
TOTAL	15	5	2	26	3	4

CASE REPORT

Case No. 42085—Hysterical Deafness.

Miss C., a 30-year-old native white stenographer, was admitted to this Hospital on Dec. 10, 1937, complaining of deafness and headache of one year's duration. The following history was obtained from a friend: The patient had noticed a progressive deafness of the right ear during the past year, and suddenly became totally deaf in both ears. Along with this she has had severe frontal and occipital headaches which had occurred about twice a month. For the past few weeks, however, these headaches have been more frequent and more severe than usual. For the past few days the patient experienced a considerable amount of nausea and dizziness but has not vomited. The only thing she complained of was "twitching" of the right eye.

Physical Examination: Revealed a well nourished and developed white female lying quietly in bed in no apparent distress. All findings were negative except exquisite tenderness over entire head when palpated and slight rigidity of the neck. Temperature was 97.5, pulse 85, respiration 19, blood pressure 120/85.

Laboratory: Findings as follows: Urine: yellow; clear; alkaline; specific gr. 1.005; no albumin or sugar; numerous crystals; few epithelium; 10-30 pus cells; and a few bacteria. The Blood Count was

(Continued on page 156)

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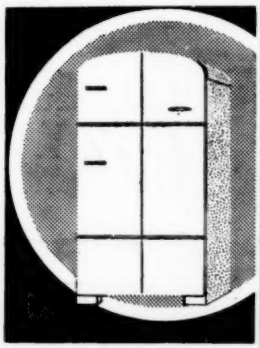

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STAFF PROCEEDINGS
(Continued from page 154)

80% Hemoglobin; leukocytes 10,500; polys. 66%; lymphocytes 11%; mononuclear cells 15%; eosinophiles 7%; basophiles 1%. Spinal Fluid: Cell count of 1, chlorides 735 mg., sugar 71 mg. The blood Wassermann was negative.

X-ray of the skull revealed the following: Mastods: Right side shows a few very small pneumatic cells; on the left side the air cells are somewhat larger lying just outside the border of the triangular density of the petrous bone.

Skull: The general appearance is that of slight intracranial pressure; the sella is large, the flood is smooth but the dorsum shows irregular absorp-

(Continued on page 158)

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STAFF PROCEEDINGS
(Continued from page 156)

tion of calcium. Possibly involving the posterior clinoids.

Impression: (1) Brain tumor, (2) Meniere's disease, (3) Hysteria.

PROGRESS AND TREATMENT

12-12-37—Her condition seemed unchanged. She spoke readily upon understanding but in a high pitched voice as though her hearing was actually defective. The rigidity in the neck is somewhat less and the dizziness is still present.

12-13-37—The following day she was friendly, her voice was more normal. She without question hears better because it is now not necessary for her to watch one's lips in order to hear. She was asked to get up and it was found that her station and gait are fairly normal. The dizziness has disappeared and there is no rigidity in the neck.

12-14-37—The next day it was found that she was apparently entirely recovered. She hears with difficulty; in fact there are absolutely no neurological findings.

She now gives a history that her early life was very unhappy She was a homeless child and was cared for by the people with whom she is now living. There was a turn in their financial circumstances with other difficulties and it has been necessary for her to assume the responsibility of maintenance of the mother and invalid daughter. She has now for some time been turning her entire check over to the mother and invalid daughter. The invalid daughter has been at times very disagreeable and for some time prior to the onset of this trouble she had been so disagreeable that this patient threatened to leave their home. This again caused trouble and probably the etiological factor in her condition.

Diagnosis: Thoughtful consideration of the possibilities of diagnosis were: Hysteria; brain tumor; Meniere's Syndrome. The absence of neurological findings made possible only a diagnosis of Hysteria.

Patient left the hospital on 14th of December, walked out in good condition.

Discussion by Dr. A. C. Kingsley:

In making a diagnosis of hysteria, one must bear in mind that there is no disease or combination of diseases which it may not simulate; however, monosymptomatic hysteria is not uncommon. Hence, no matter what your suspicions may be, the possibility of organic disorder must first be eliminated, and the minor emotional upsets disregarded.

At first, practically no information could be obtained. After the usual physical examination, the only findings were of apparently total deafness, and slight rigidity in the neck. There being no other signs of meningitis, this possibility was eliminated. A bilatetral Meniere's was considered, but discarded.

The apparent absence of air and bone conduction bilaterally would indicate that if there were focal lesion it must be deep. Anatomically, involvement of both 8th nerves would be impossible without including one or both 7th nerves, and possibly the 6th. As this was not the case, the possibility of a lesion in the pontine angle was also discarded.

The very meagre history did indicate that the condition might be of psychogenic origin. Therefore, a diagnosis of hysteria was made and, I think, confirmed by her abrupt recovery; also by the history later obtained, making it entirely probable that the deafness represented her desire to escape the wrangling and criticism to which she was subjected at home.

LESLIE R. KOBER, M. D.,
Secretary.